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VOL. XIV. NO. 20.

OCT. 15, 1886.

GLEANINGS
IN

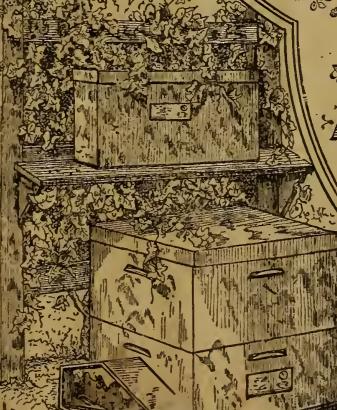
BEE CULTURE

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TO

THE
SCIENCE
& HONOR INTERESTS.

MEDINA, OHIO

BY
A. BROOK



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Inches Wide, No. of Rolls.	SOME OF THE USES TO WHICH THIS WIRE CLOTH CAN BE APPLIED.
26	This wire cloth is second quality. It will answer nicely for covering doors and windows, to keep out flies; for covering bee-hives and cages for shipping bees; making sieves for sifting seeds, etc.
28	Number of Square Feet contained in each Roll Respectively.
28	21 rolls of 217, 37 of 216, 2 of 215 s. f. 22 rolls of 233 s. f. 27 rolls of 316, 2 of 317, 1 each of 632, and 285 s. f.

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We have the following lot of goods at the places named, for which we want customers. Now, it is altogether likely that there is some one located not very far from where these goods are who will be needing just such articles, especially if he can get them a little lower than the regular price, and doesn't have to pay much freight charges on them. In hopes that there are such persons, we append a list of the articles for sale, giving the present value of the goods and the amount we will take for each lot entire. We give a number to each lot, and the name of the place where they are being held, subject to our order. Remember they are all perfect goods, just as fresh and new as if shipped from here. Remember, also, that at the price we offer them we can not break lots; each lot must go entire. In making your orders, please give the number of the lot as well as the articles contained in it, and thus help us to avoid mistakes.

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No. 14	Delaware, Ohio.	
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No. 19	La Salle, Ill.	
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2 H. P. ENGINE FOR SALE.

We have at the factory in Elmira, N. Y., a 2 H. P. engine and boiler that has been rigged up exactly as good as new in every respect. It ought to bring full price of a new one, but in order to get it off our hands we offer it for \$15.00.

A. I. ROOT, Medina, O.

WE have for sale 6 very good tested Italian queens (1 hybrid) at \$1.00 each, or \$6.00 for the 7. Hybrids, 35c. Send \$1.02 to return your money if queens are sold before your order comes. 17tfdb MODEL B. HIVE CO., W. Phil'a, Pa.

HONEY COLUMN.

CITY MARKETS.

CINCINNATI.—*Honey.*—There is a fair demand for choice comb honey in 1 and 2 lb. sections, which brings 12@15c a lb. in jobbing way, according to quality and neatness of package. There is also a fair retail and jobbing demand for extracted honey in square glass jars for table use, while the order trade for dark grades from manufacturers is improving. We quote extracted honey at 3@7c on arrival, according to quality. *Beeswax* is in good demand, and good yellow brings readily 20c on arrival.

CHAS. F. MUTH & SON,
Cincinnati, Ohio.

Oct. 9, 1886.

MILWAUKEE.—*Honey.*—The market for choice comb and extracted honey is firmer, and I am trying to establish a little higher range of values. I will quote 1-lb. sections, white, 12½@13c; 2-lb. sections, white, 11@12c. Dark, not wanted. Extracted, white, in kegs and ½ bbls., 6½@7; same, in tin, 7@7½; same in bbls., as to quality, 5@5½.

Beeswax, quiet. A. V. BISHOP,
Oct. 2, 1886. 142 W. Water St., Milwaukee, Wis.

BOSTON.—*Honey.*—We report good sales at 14@16c for fancy 1-lb. comb; 12½@14c for fancy 2-lb. comb. Oct. 12, 1886.

BLAKE & RIPLEY,
57 Chatham St., Boston, Mass.

CHICAGO.—*Honey.*—The demand for honey is better, with prices unchanged from last quotations. Receipts are quite large, both of comb and extracted. *Beeswax*, 23@25c. A majority of all consignments of comb honey is of excellent quality.

Oct. 7, 1886. R. A. BURNETT,
161 So. Water St., Chicago, Ill.

CLEVELAND.—*Honey.*—There is no change in price; let former quotations remain. A. C. KENDEL,
Oct. 7, 1886. 115 Ontario St., Cleveland, O.

Detroit.—*Honey.*—There is a good supply of comb honey in the commission houses, put up in every conceivable shape, a large proportion just as it came from the hives. Buyers sort it over and take the most attractive first. Prices remain the same; viz., from 12@13c for the best. Dark, 10@11c. *Beeswax*, 23c. M. H. HUNT,
Oct. 10, 1886. Bell Branch, Mich.

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Lynnville, Tenn.

1880.—NOTES FROM THE BRIGHT-BAND APIARY.—1886.

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Will deliver on board cars at Shreveport, La., full colonies of bees with untested queen, for \$3.25 each (9 frames). Make P. O. orders payable at Shreveport, La., and address your orders to

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Benton, Bossier Parish, La.

SAY, LOOK HERE! if you want something that will hold all sorts of small things, as papers, almanacs, letters, magazines, cards, etc., and do it quick, before it gets lost or blown away, or the baby tears it, send 10c. for an **Acme Paper-Holder**; two, 15c.; five, 25c.; twelve, 50c. Agents wanted.

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BARRYTOWN, N. Y.

The Chapman Honey-Plant.



In accordance with a previous notice in bee-periodicals, I am now prepared to fill orders for the seed of the above plant at the following prices: ½ oz., \$1; 1 oz., \$2; 2 oz., \$3; 4 oz., \$5; ½ lb., \$8. One oz. contains from 1600 to 1800 seeds. On account of extreme drought my stock of seed is limited, and persons ordering will be served in rotation. The seed should be sown in the early spring, and general directions for cultivation will be given on each package.

This plant is not an obnoxious weed, and is as easily eradicated as clover. Having carefully watched its habits of growth, and its honey-producing qualities for the past six years, I believe those who commence its cultivation in a liberal way will be better pleased than by commencing with a small quantity of seed. It has been tested by prominent bee-keepers all the way from Vermont to Nebraska and Ontario. We refer to the report of the committee appointed by the North-American Bee-Keepers' Association held at Detroit in 1885. The committee reported at the Indianapolis, Ind., convention held Oct. 12th to 14th, and their report will be found in all bee periodicals publishing the report of that convention.

Write all orders plainly, and give your postoffice address in full.

H. CHAPMAN,
Versailles, Cattaraugus Co., N. Y.

40-Horse-Power Engine for Sale.

Our new automatic cut-off 90 horse-power engine is now driving the machinery in all our buildings. Now, we want to dispose of our old 40-horse-power engine which has done such faithful work for us for the last eight years. It is a standard plain engine, Lord & Bowler make, 12x20, with a 9-foot balance-wheel and a 6-foot fly-wheel. We will offer it, put in good repairs, for \$350.00. We will throw in the stone upon which the bed-plate is bolted, free of charge. For further particulars, write us. Whom shall we hear from first?

A. I. ROOT, Medina, Ohio.



Vol. XIV.

OCT. 15, 1886.

No. 20.

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MRS. CHADDOCK'S VIEWS ON BEE-PASTURAGE.

THE STUDENT BUSINESS.

WHEN I began to keep bees I did it with the distinct understanding *with myself* that I would never sow a seed of any kind to raise pasture for bees. I said, "If bees don't pay with what nature furnishes them, then I won't keep bees." So in reading GLEANINGS and the other journals, when I come to an article about any kind of bee-pasture I skip it. When I received the A B C book I read almost every thing in it. I do not remember now, but I suppose I skipped all the bee-pasture in that too.

Last week I took a notion to raise some alsike clover, if I can be convinced that it is as good a hay crop as red clover. Mr. Chaddock is willing to sow an acre; but what is *one acre*? I want 20 acres, and I am trying to persuade the farmers near me to sow some of it. I will give them the seed. If it only blooms at the same time that the white clover does, it will be hardly worth while to sow it, for there are not half bees enough around here to gather the white-clover honey. If the first crop is cut while in blossom, what is to hinder the second crop from bearing seed? If alsike is no better for honey than buckwheat is here, then it is useless to sow it for the bees. There has been no honey, to amount to any thing, in the buckwheat around here, more than once in ten years.

HOW MRS. CHADDOCK GOT INTO THE STUDENT BUSINESS.

You ask how I came to go into the "student business." I did not go into it; it came upon me, just as other people are afflicted with boils and car-

buncles. You know—or, rather, you don't know, that I have a few dozen nieces and a few score of cousins, and several hundred young woman-friends, besides my own daughters, who are always coming to me for advice and help. They all learned, a good while ago, that I was fond of giving advice, and I think they come to me a good many times to tell their troubles when they care not a whit about the advice. They want some one to talk it over with, and so they come to me. They are nearly all "school-marms;" a few are dressmakers, and one or two of them work out. One of the fairest and best of them all is "my student." She is a "school-marm," and a good one. She can earn from \$25 to \$40 a month teaching, and she likes it. But every once in a while (generally during vacation), she takes a notion to clerk in a store, or be a milliner, a farmer, or something. This vacation she is going to be a bee keeper. She wears long dresses that touch the ground all around, and has her bangs done up most of the time. She has white dresses to wash every week, and six white skirts. I do not believe she is in earnest; and if she were she has no time for it. That is the reason I do not want to bother with her. But over yonder at the back of our fields lives Mollyony Johnson. She is a Swede girl, 18 years old. She is a little round-shouldered, has red hair, and great big freckles. She is a good girl, and I like her; and if she wanted to stay with me and learn bee-keeping I would take her gladly. She is always laughing; and when she goes to wash the windows she says, "I don't think so I can do it good," but she always *does* do it "good." She doesn't scream when a bee stings her, nor run from snakes, nor wear bangs. I like Mollyony for every-day wear

better than I do the "school marm;" though the "school-marin" is bright and smart, and I like her too.

As to hiring out to drive that mule team, I never offered to work for my board in warm weather; I think I am worth more than that. But every winter I am frozen up, and as soon as I begin to house up I get sick and stay sick till warm weather comes. Last fall I made up my mind to go to Florida to spend the winter, if I could find something to do to pay my board while there. I want to be outdoors, and I want to be doing something.

MAHALA B. CHADDOCK.

Vermont, Ill., Aug. 4, 1886.

Mrs. C., I was a little afraid you were a little inclined to be uncharitable toward the "school-marm;" therefore I was very glad to hear you say, toward the conclusion, that you liked her too. These friends of ours have different talents, different capabilities, different missions in life, and very likely they are all lovable, if we come to understand them; and this we can do only by becoming intimately acquainted. And this brings me to my latest hobby, of making it a point to get *acquainted* with people; then you know we shall come nearest to that happy state of loving everybody. Is it not so?

MEDICINE VERSUS HYGIENE.

SOME SENSIBLE IDEAS FROM FRIEND TERRY.

FRRIEND ROOT:—On page 773 of GLEANINGS you give us a very interesting talk in regard to dosing with plants and herbs. I agree with you fully; and if we could get every one else to agree with us, we might do much good. The quantities of medicine given in many families is appalling. Surely a magazine devoted in part to "home interests" can not do better than to protest against this but too common practice of dosing ourselves, or the children, for every little ailment, even with home-made remedies. Then look at the thousands of tons of patent medicines that are sold every year, and, of course, swallowed by some one. Why, only the other day I called on one of the most intelligent men in our town, and found him opening a bottle of patent medicine. His excuse was, "I have been rather out of sorts for some days, and need something to tone me up."

Ever since the writer was old enough to know any thing he has been down on this dosing business, although every rafter in the old garret used to be hung full of dried herbs of every description, decoctions from which were often put on, or into, the other children. Once when I was quite poorly father called in a celebrated physician, author of a work on family dosing. He said I was "bilious," and left a box of pills for me. I was only eight years old; but I had a great horror of pills. Mother fixed one up in a spoonful of sauce and brought it to me. I couldn't and wouldn't take it. Then they dissolved it in water, and tried to make me drink it. At last they offered me a \$5.00 gold-piece if I would take it, but I wouldn't. Worried out I finally told them to put it in a raisin and I would try it. I took it in my mouth; and as mother turned to put the spoon on the table the pill went out the open window. Next morning the doctor

called. "Why," he says, "he is much better. How beautifully these pills do work! Give another to night, and he will be all right in a day or two." The second one followed the first, and I got well rapidly. It was ten years before I dared tell the story; but meanwhile no pills went down my throat.

Our best physicians now give but little medicine. They know that pure air and sunshine, proper food and exercise, are the best medicines, as a rule. It was a wise man, but rather ahead of the times, who wrote some 30 years ago, that "doctors do precious little when they don't do harm."

Some years ago the writer was laid up by a very badly injured foot. He even got so low that there was a slim chance of his ever being any better. People would come in and say, "Why don't you try this or that? The doctor isn't doing any thing for you." So I asked him one morning if there wasn't something known to science that would help my foot to heal up? He replied, "I am sorry to say that there is not. We can only keep it wet with carbolic acid, and let nature work." I knew he told the truth, and was satisfied. With some natures, perhaps, a harmless substance, put on with strong assurance that it would surely cure, would have been best, so strong an influence has the mind on the body, hence our often wonderful so-called "faith cures." My doctor knew me, and knew that the exact truth was what I wanted, although it was a sad admission for science to make, in view of all the healing (?) salves and ointments that our mothers used to have.

I remember once taking a very hard cold. It made me very sick, and wife sent for the same physician. He came and looked me over and said, "Keep covered up warm in bed, so warm as to be rather uncomfortable, and you will be all right in a day or two." Not much medicine for \$2.00, surely; but it proved to be all I needed. In some places, I presume, he would have given some bread pills or sweetened water, "a teaspoonful every other hour." Now, this man is thoroughly posted, and up to the times; and what does he do when he feels "bilious"? Take medicine? Yes, the very best kind. He gets out his horse and buggy and drives down to my place. Then he puts on an old suit of clothes, and, with dog and gun, takes a long rapid tramp through the woods and fields, until the sweat runs from every pore of his body. When tired out he comes back, puts on his dry clothes, and goes home all right. This has been his practice for years. How foolish, then, for us to dose ourselves with injurious medicines, which the most intelligent physicians, who know all that science has yet taught, on this point, wouldn't think of touching! And how much more foolish, and even wicked, to stuff the same down the throats of the little innocents, every time they cry or are fretful! There isn't a single drop of medicine in our house, of any kind, nor a single herb to make any of. We have always let nature take care of all little ailments, doing what we could to assist her by good care, and for larger ones called an intelligent physician, and I am sure our babies gave less trouble than mother's used to.

I know it is hard to sit idly by and see loved ones suffer, hence we try to prevent it by giving them pure air, sunshine, keeping them clean (of that in my next), feeding them properly, and seeing that they take plenty of exercise. Sickness

usually comes as the result of violating the plain laws of health. It is Nature's protest against ill treatment, and Nature is the greatest physician on earth, and seldom loses a patient if given a fair chance.

T. B. TERRY.

Hudson, Ohio.

HOW MUCH MONEY CAN I MAKE FROM THIS YEAR'S CROP?

THE PROFIT IN BEE-KEEPING AS COMPARED
WITH OTHER OCCUPATIONS.

YOU ask me, on page 732, how much money I made after my tribulations. Really, I do not know, for I have not made it yet. I got, in round numbers, 3000 lbs. of comb honey and 1500 lbs. extracted, with enough to winter on. If I could have kept swarming within any bounds I should have had 1000 lbs. more. Of those 4500 lbs. I have about 4400 lbs. yet. I can scarcely sell a bit of it at any fair price. Last year I put my honey in stores in the villages around, at such a rate as to net me 15 cts. per lb., and it sold pretty well. This year I have put the price down about 2 cts. per lb., and there it is. Why? Simply because all who want it can get it from 8 to 11 cents. I have made efforts to sell some in Springfield, but have found the market completely stocked. I could have sold some at 10 cts., but—I would not—not yet awhile! I must have \$400 out of my crop if I can get it, and not till I find I can not will I take any less. For the capital and work invested, that is not a high figure. As I do not expect to average over 8½ cts., if that, for my extracted, I must have more than 10 cts. for comb honey. Every farmer with a few bees had some surplus honey this year, and they have been running into market and lumping it off to get rid of it. They have it in pound sections too. In respect to the shape in which honey is put up, modern bee-keeping has made a wonderful stride in the last three years.

SOMETHING ABOUT OVERPRODUCTION.

I am convinced, however, that there is no use in trying to keep up the price of honey very much or very long. We must simply bend our energies to lessen the cost of production. It is folly to talk about quitting the business. If we do, what shall we go into? Shall we take up farming? For several years the wheat has turned out poorly in this region. This year there was a fair crop, but it is a fact that farmers are scarcely any better off, because of low prices. Last winter the live-stock markets were perpetually glutted, and prices disastrous. During the last two seasons we have had magnificent yields of dairy and poultry products, with consequent overstocked markets, and prices that at times scarcely gave back the cost of production. Shall we try mercantile business? One evening last summer a stove and tinware dealer told me, as an example of the business he was doing, that he had that day taken in 60 cts., while his expenses were \$5.00 per day. He was in the business only because another man had failed, and he was on his bond for about \$6000. He bought the stock to save himself.

A grocer in the same city, Springfield, of 20 years' standing, told me that the grocery business had ceased to be profitable, largely because there were too many in it. During that 20 years, Springfield has been more and more absorbing the business of

the smaller towns around it. Yet there are too many groceries for that business. Always and everywhere we hear the same cry of overproduction or overstocking. I feel that I have quite a burden in the stock of honey on hand, with no demand for it; but I do not appear to be much worse off than most of the others.

There does appear to be

ONE PROFITABLE BUSINESS.

In my conversation with this same grocer I made observations similar to the above, when the gentleman admitted that no business seemed thriving except the saloons. There is a point for us all. This traffic in vicious indulgence lives and grows at the expense of the more legitimate and beneficial pursuits. How many pounds of honey, and how many bushels of wheat or potatoes, might be readily sold that are now glutting the markets, were it not for the millions wasted thus! And, by the way, that same stove-dealer, in our conversation, remarked that business lots on his side of the street were worth only half as much as those on the opposite side, because "the saloons along here" make them so undesirable for business purposes. Amazing fact! Who ever heard of any other profitable business but would enhance, not depress, the value of real estate in contact with it. Bee-keepers, in common with men in other occupations, can none too diligently inquire how best to get rid of this parasite that lives and feeds upon the very life of the business world. Friend Root, you may regard this as a digression, but I do not. I have, however, long been wishing for a chance to drive a wedge in here.

QUEER IMPRESSIONS.

I, too, get mistaken impressions concerning contributors to bee-journals. I was never more surprised than I was to learn that Mr. Heddon is a "little nervous fellow," instead of a burly, solid 250-pounder. A. I. Root, I have always taken to be a short, but thick-set, broad-shouldered, broad-chinned, short-necked man, a little inclined to corpulence as he grew older, with more of the sanguine than the nervous in his make-up. Am I right?

GEO. F. ROBBINS.

Mechanicsburg, Ill., Sept. 24, 1886.

Many thanks, friend Robbins. In your remarks upon overstocking you touch indirectly upon the same point brought out by Dr. C. C. Miller—see page 811. You say, last year you sold your honey for 15 cents without much trouble. This year the farmers about you, perhaps incited by your success, have taken up the bee-business. Two results have followed: Your locality has become overstocked, and the price of honey reduced. If you were first in the field, is the honey in the locality over which *your* bees fly yours, or the property of every one else?—Our country is large, and there is an abundance of room for us all.—I believe it is a fact, that the returns from the honey-business average as well as those of other legitimate trades or professions, and I see no reason why we should become discouraged, even if our bees do not pay well some years.—It is true, there is *one* profitable business, and that it is damaging to every other legitimate business: but we hope this state of affairs won't exist many years longer, in our fair land. — Your impression of A. I. Root is

queer, indeed. He is small, medium build, not thick-set nor broad-shouldered, and, least of all, inclined to corpulency. He is of a nervous make-up, impatient to have things move, and is never at rest during the hours of daylight.

ERNEST.

I will add to what Ernest has said, that, as so many friends at the convention asked what I weighed. I have just ascertained. It is 130, and I believe I never weighed any more. For several years I have been averse to getting weighed, because it seems to me too many people waste valuable time in getting weighed every day or two. Now, all this is of but little moment compared with the point you touch upon, that all our industries are overdone. Intemperance is, without doubt, the greatest cause of this state of affairs.

NORTH - AMERICAN BEE - KEEPERS' SOCIETY AT INDIANAPOLIS.

IT was my good fortune (as you may guess from Ernest's talk, under the head of Our Own Apiary) to have Dr. Miller for a traveling companion. Indianapolis is a beautiful city. The streets are broad, and, compared with New York and Boston, it is a wonderful relief to see plenty of room for vehicles, pedestrians, and all the business that is to be done. Of course, there is no such amount of business done in Indianapolis as in the eastern cities mentioned; but I think they have done a very wise thing in laying out the city and distributing the buildings, even with the business they do have. Over and over again I was reminded of our old apiary and old home, contrasted with our new apiary and our new home here in Medina. When we commenced here I feared I was spreading every thing over too much ground; but the lapse of half a dozen years has shown the wisdom of having plenty of room, plenty of air, and plenty of sunshine. It seems to me that one of the greatest obstacles in the way of doing business accurately and rapidly, that we have to encounter, is getting things in a heap and disorder, sometimes wasting more time than it takes to do the work, because of having our business *all in a heap*.

The people of Indianapolis seemed to be very pleasant indeed. As soon as we got into the convention and paid our dues we were furnished with a plain neat little badge by Mrs. Robbins, who contributed very much to the success and pleasantness of the whole convention. Where we went through the city we were recognized by these badges as the "bee-men," and it was very pleasant for me to find myself already introduced, wherever I went.

I found that the convention did not open till 9 o'clock on the second day, therefore I had four good hours to "have fun" before the convention opened. My usual hour for rising is 5 o'clock; but at the Occidental Hotel they did not allow anybody to have breakfast until 6, so that blocked my way some. I want to say a word right here about our large hotels—they do not seem to be calculated for busy impatient men like myself. After we sat down to breakfast it was twenty

minutes before the waiter brought our viands; and at dinner-time, after we had finished our dinner we had to wait fifteen or twenty minutes more for dessert. May be there is no remedy for this state of affairs; but I would have a remedy in some way or other, at all hazards. The above hotel is a beautiful one, and built exactly as I would have it, in the way of plenty of room and plenty of air. The bill of fare is excellent, especially in the way of fruits and vegetables. Very nice green peas were on the table in October. In the market we saw beautiful strawberries at 50 cents a quart. The vendor said they came from the city of New York, but he did not know how nor where they were raised. If any one who reads this can enlighten me on the point, I shall be glad to hear from him. Does any one know what would be the result of cutting off the strawberry-buds in the spring? Would it not make them blossom later? You know that, by pasturing or cutting off alike clover, we induce it to give a yield of honey after white clover is gone.

Well, after I got my breakfast I started for the market-gardens of Indianapolis. I was abundantly satisfied with my search, and gathered many new ideas. Perhaps I was fortunate enough to give a few ideas to the boys I found on the ground at that early hour. They plant their celery in a double row, the rows being six or eight inches apart, and the plants are set so as to "break joints," as we term it. By this means two rows are banked with the same labor required for one row. As the ground was very rich they secured a fine crop in this way. By the way, they get stable manure in Indianapolis for hauling it away. The boys said the owners of the manure sometimes paid them for going after it, when they wanted it removed. They were astonished when I told them that we pay from fifty cents to a dollar a load, according to quality, and can not get enough at that. It seems to me that farmers and gardeners ought not to grumble while this state of affairs exists in the West. Nothing is sold by the pound, or, at least, few things. They sell lettuce in February for \$6.00 a bushel; but in October they get only 50 cts. a bushel. I saw a beautiful patch of "multiplier" onions that are to remain out all winter. They say they pull them for market in February. Sometimes they winter-kill badly; but as a rule, enough are left to make the crop a very profitable one. Manure being so cheap, they raise almost every thing in hot-beds, and these cover an immense area of ground. The frames that hold the sash are movable. After they are taken away, manure covers the whole plot of ground from one to two feet. It is now being carted over the ground, preparatory to getting fresh manure from the city for the hot-beds for the coming winter and spring.

I enjoyed my visit exceedingly, and came into the hall at ten minutes after nine, feeling that, with the exercise of the morning, I could easily stand it to sit still indoors from nine o'clock until noon. Doctor Miller, who has been for some time the president of the Chicago Convention, and who is, by the way, to be president of the N. A. Con-

vention, to be held next year in Chicago, remarked to me, while we were traveling in the cars, that it seemed to him that the time of a convention ought to be occupied mainly in getting the opinions of those present—hearing from each one in the room as far as possible. He said that in Chicago they had for many years ruled out essays and addresses. These can be given through the pages of our bee-journals, while a single subject can not be considered by a hundred bee-keepers all at once, except at a convention. It seems to me there is much wisdom in this, although it is true, many times, that it seems to be desirable to discuss essays which have been read.

Discussion on wax-extractors, and the hints communicated by a great number of different people, were very valuable. For instance, friend Dadant said that where wax is extracted by steam, by no means let the jet of steam strike the wax. Run the steam-pipes down into the water contained in the tub or cask. When it gets the water boiling hot, throw in the pieces of comb. Direct steam has a tendency to get the wax into the well-known granular state, from which it is very difficult, many times, to restore it. Many reported having used the sun wax-extractor, and all declared themselves highly pleased with its use. It is practical, however, for only small quantities of wax. Steam is best for a large lot. Put only as much comb into the solar wax-extractor as will be melted quickly, and take away the wax often—each day if convenient. Cappings are rendered nicely with the sun extractor, and the honey that comes from them will be found under the cake of wax, good enough to put on the table. In fact, the honey adhering to the cappings is of the very best quality, although it is sometimes darkened by bits of pollen, etc., that get into it. Friend Dadant says they let their cappings drain a great deal longer than most people. Sometimes they put them on the sieve of the uncapping-can, and let them stand three or four weeks. When all the honey has run out that will run out, put on another lot, and so on. He says they sometimes have several barrels waiting to be thus drained out in the uncapping-can.

The subject of foul brood was discussed at considerable length. Members who had had experience with it gave reports that seemed to indicate to me that the course we have taken is about the best one, all things considered. At the present writing, the disease has not appeared in any case in any of the fifty colonies where the combs were destroyed; and nearly, if not all of them, have been raising brood right along ever since they lost their original set of combs.

The Chapman honey-plant was presented by two of the committee who were appointed a year ago to examine it and report, L. C. Root being absent. All who have tested the plant seem inclined to give it a front place with plants cultivated for honey alone.

Spreading brood to induce the queen to occupy more combs, and to put the brood in a more compact shape, was discussed at considerable length by many very able bee-

keepers. I believe the general opinion is, that judicious spreading, in the hands of an expert, may greatly increase the amount of brood on hand at the time when honey begins to come in; but it is also true, that mixing up the combs, before the colony is strong enough to be able to bear it, may be a very great hindrance in getting a colony ready for the honey-harvest.

It is considered quite advisable to contract the colony, during winter and early spring, on to as few combs as will hold the stores and accommodate the queen; and this is best done by movable division-boards. Now, when the queen and bees both need room, *without any mistake*, move the division-boards so as to make room for one more empty worker-comb. Make this empty space pretty near the middle of the combs, and put in here your frame of empty comb. The worker-bees will almost at once prepare these empty cells for the reception of eggs. Very often the queen will have the comb partly filled with eggs before night. As these eggs are deposited all about one time, they require the attention of the nurse-bees almost at one time, and hatch almost at one time.

Whenever I attend one of these national conventions I am powerfully impressed with the advantage it is to any one to meet with the progressive and thinking minds of our age. To look into the faces of these men, and get intimately acquainted with them, is a powerful exhortation of itself. We sometimes get an idea that we are working alone in some of these unexplored fields; but to see some good brother get up and tell how he has gone away beyond us, oftentimes, shows us little conceits that we did not before suspect in our own hearts.

Of course, to get the full benefit of the purpose of the convention, we want every one to give some of his experience, or, at least, as many as possible; and when a single thought is held up so that one after another can give his experience in years past, it reminds me of concentrating the rays of the sun upon a single point by mean of a powerful burning-glass.

A REPORT FROM AN A B C SCHOLAR WHO FURNISHED US THAT NICE SECTION HONEY.

MR. ROOT:—In commencing to give in my report I will begin with the fall of 1884, when I went into winter quarters with 45 colonies packed in sawdust on their summer stands.

I lost five colonies in wintering, on account of the severe winter. Over one-half came through weak. They increased from 40 to 67 by natural swarming. They gathered 1850 lbs. of white clover and linden honey, which I sold on an average of 15 cts. per lb. I packed my bees the same as the fall of 1884; lost two in wintering, which left me 65 to commence the season. I sold two swarms for \$17.00, used three for queen-rearing. This left 60, which I ran for comb honey, giving me 2100 lbs.—an average of 35 lbs. to the colony. I kept 100 lbs. for home use; for the rest I received 14 cts. per lb. They increased by natural swarming to 98 colonies.

Basswood was an entire failure. The drought destroyed the white clover the first week in July. A

field of alsike clover helped me in securing the quantity as well as the superior quality. After using 2000 of the $4\frac{1}{4} \times 4\frac{1}{4} \times 1\frac{1}{8}$ sections with separators, and 4000 of the $4\frac{1}{4} \times 4\frac{1}{4} \times 1\frac{1}{8}$ without separators in the last two seasons, I am so well pleased with the $1\frac{1}{8}$ section I shall use them in the future.

By working hard I have made a home market for all my honey. The secret is, I think, to be found in putting it up in the most neat and attractive shape possible. This report is from an A B C scholar who commenced four years ago, with bees in box hives, which I transferred to the Langstroth hives.

M. G. CHASE, 15—65—98.

Lafayette, O., Oct. 5, 1886.

Our friend Mr. Chase has furnished us, for two or three seasons back, the nicest section honey it has been our lot to handle. In every instance, wherever his honey has come in competition with other honey, his has commanded a higher price. We sell his honey at 18 cts. per lb. on the market-wagon, while our other comb honey commands but 12 and 15 cts. Why is this difference? Because the Chase honey-comb is always pearly white, and the sections are never soiled with propolis or dirt. He packs his section honey in the 24-lb. single-tier shipping-case, and these in a light spring wagon which he takes wherever, he can get the best price. Brother bee-keepers, are we all as careful to have our honey in as nice marketable shape as we can put it? In securing this honey he practices contraction, and uses the Heddon crate.

A GOOD REPORT FROM A BEGINNER.

ALSO A FEW KIND WORDS.

AS the honey season is over, I feel as though I should like to say a few words in regard to the season, and other subjects of interest. I began last spring with six colonies, three Italian, one hybrid, and two black. Two of the Italians had about a pint of bees in each. I built them up, and they gave me one swarm late, but no honey. The other four I have increased to twelve, and taken 230 lbs. of honey—75 lbs. extracted, the rest in 1-lb. section boxes. The best Italian colony gave me three natural swarms and two artificial ones, and have given me 100 lbs. of honey. The season began early here, but there was hardly any honey in fruit-blossoms, raspberry, or dwarf maple—just the reverse of last year, when every thing was full of honey. The first of the season the bees got just enough to carry from one day to another, until clover, which also yielded sparingly, but lasted longer than usual, with just enough linden and buckwheat to keep them breeding well until goldenrod and asters opened about the first of August. These have given me all the honey I have taken, except 20 lbs. of clover in July, and from 20 to 30 lbs. in each hive to winter on, in nice heavy combs; they weigh from 5 to 8 lbs. each, capped, most of them clear to the bottom-bar. The honey is so thick that I could hardly throw it out with the extractor, and it weighs plump 12 lbs. to the gallon. It doesn't seem as though they would have much disease on such food. I don't think they have much pollen. I have sold 16 lbs., almost all at 25 cts. There is another bee-keeper about three miles from me who has about 50 colonies. He sold his honey last

year, what little he had, at 25 cts.; and when I began selling at 25 he did not like it so very well. He said I should keep the price up to 30 cts. for comb, for he was selling extracted at 25. There are few places where honey sells as high as here; but the town is small, and the people don't eat much honey, so it is rather hard work to sell at that price. I know that it is a good price for honey. I suppose 20 cts. is about right for it here; but if I should drop to 20 cts. this friend of mine would be very much offended, and give me another lecture on underselling. He said he could sell all the honey he could raise, at that price, and mine too, but I don't think he could. Some will buy honey at any price, and there are a lot more who will not unless they can get it cheaper. I took about 40 lbs. to Plymouth, quite a large town twelve miles away. I sold it after a while, a little in a place, but the most of them said they could send off and get it and then sell it for less than I offered it to them. I have pint $1\frac{1}{2}$ -lb. jars at 45 cts.; how do you suppose it would work for me to fill all the stores with them at 30 or 35 cts.? Could I make more in the long run by so doing? I want to sell a lot of honey, but I want to do right, and use everybody well. Of course, it would not do to sell for less in one town than another. I should like a little of your advice on this subject, if you would be so kind as to give it.

How the bees did work for four or five weeks! If they had done as well the first of the season, I might have had quite a little report; but five good swarms and 100 lbs. of honey from a colony is not very bad. I am well satisfied with my work this season, and I owe most of my success to what I have learned from GLEANINGS. How any one can find fault with the contents of GLEANINGS is more than I can conceive. Every word of it is interesting to me, and instructive. Your talks about gardening, carp, poultry, and every thing else, is, to my mind, good enough. I wish it came every week.

I am sorry you have foul brood, and hope you will soon get rid of it. The smoker you sent me last year, for quitting the use of tobacco, has done me good service this season. I have not tasted the weed since, and don't intend to again. I am very much obliged to you. I have thought, this summer, if the men of this town would use the money to buy honey with that they pay for tobacco, I could sell honey enough; but they think tobacco is more of a necessity. C. E. WATTS.

Rumney, N. H., Sept. 29, 1886.

As a general rule we should get as good a price as our honey will bring, and I hardly think 25 cts. per pound is too much if our patrons are willing to pay that for every pound we can raise. On the contrary, if customers will *not* buy at this figure, then we must sell for less. Your neighbor and yourself, I think, can come to some amicable agreement as to the price per pound you can dispose of your whole crop of honey. In regard to the $1\frac{1}{2}$ -lb. jars, if they will sell so as to in time close out the whole lot at 45 cts., I do not think I should drop the price. Questions of this nature, each one must decide for himself to a greater or less extent; and while we should command as high a price as we can get, we should also remember the "Golden Rule."

CATNIP.

Its Value for Medicine as well as for Bees.

ALSO SOME GENERAL THOUGHTS IN REGARD TO THE MEDICAL PROPERTIES OF PLANTS.

THIS very common plant grows all over our country, yet very little is known about its real value, because it grows at almost every man's doorstep. Something far fetched and dear bought is considered to be very valuable, while we have as good, and perhaps better, all about us; and if the one at home were carefully studied, our introduction would lead us to say, "We wish a better acquaintance." The medical properties of this plant are anodyne, carminative, diaphoretic, anti-spasmodic, and nervine. The infusion given cold is a mild tonic; so also is the fluid extract. It has been used in febrile diseases as a diaphoretic, and to promote the action of other remedies; also to allay spasmodic action, and produce sleep; and right here its value has been tested thousands of times, when the fever has run high, and the poor sufferer has rolled from side to side, wild from feverish mania, the eyes glaring and bloodshot, pulse 130 per minute, temperature 104, respiration 30. Now, here is a case that any physician would regard with alarm, and well he might, for danger is near if this condition is allowed to remain, or can not be removed. With the danger-signals all up, give *four ounces* of a fresh infusion of *catnip*, warm as can be drank comfortably, every hour, for 6, 8, or 10 hours, and, lo! your signals are all down, or, at least, at half-mast. Every indication is *changed for good*. It has been given as a carminative and anti-spasmodic in the flatulent colic of little children. Many times I have seen the little sufferer soothed down to rest and a long sweet sleep, by the use of a few teaspoonfuls of catnip tea; a gentle moisture would spread over the whole system; the irritation or cold, as the case might be, would fly out of the windows (the relaxed pores), and the little one would be well.

It is of great value as a *uterine* tonic, and has proved very beneficial in amenorrhea and dysmenorrhea, and has been employed in nervous headache, hysteria, and nervous irritability. The proof can be furnished, if the proof of the action of any medicine can be furnished, that it has restored the menstrual secretion after other means have failed.

As a convenient domestic remedy it has no superior in recent colds, coughs, febrile and eruptive forms of diseases, which infants and young children are subject to. The leaves and flowers are the most valuable part of the plant, and the virtues thereof are set free by boiling water, except the essential oil, which can be procured only by distillation. It contains that variety of tannic acid which strikes a green color with the ferruginous salts that are set free by heat. Restlessness, arising from overwork, anxiety of mind, and many other nervous conditions, are soon improved by the use of this remedy. The fluid extract of catnip, ladies'-slipper, and skullcap, equal parts, forms a splendid remedy for chronic nervous headache.

But with all the other good qualities, it is a splendid honey-plant, supplying a large secretion of nectar for the busy bees every year, and sometimes the amount of honey gathered from it is astonishing. And while it is good for the bipeds and good for the bees it is also good for Tabby. A few years

ago I had a very fine puss that began to be stupid, and dumped about for several days, refusing all food, even milk. One day she had a terrible fit, frothed at the mouth, jerked, and convulsed terribly for a few minutes, and then a faint moan escaped the poor creature, and my sympathy was stirred beyond further endurance. I got some catnip, made some tea, and gave it immediately; and as soon as it touched her mouth, the greatest pleasure was manifest, working her mouth and trying to get every drop. In a few moments she revived, and lay quiet and resting. After a little while she moaned again and I gave some more tea, when she took greedily all I gave her. She took several drinks of it during the day, with the greatest possible relish; and the day after, she began to take a little food, and recovered rapidly, without having any more convulsions. If my horse had been sick, and recovered as nicely and speedily as did my pet Tabby, I should have regarded the remedy used, whatever it was, as very wisely applied.

The physician who does not deal truthfully with suffering humanity, especially when he knows that death is but a step before them, is very unkind and cruel. Ignorance or dishonesty only can be attributed to such conduct. If ignorant, he is unfit for a professional position; if dishonest, he is just as unfit.

N. L. HIGBIE, M. D.

Elsie, Mich.

I presume, doctor, the above was called forth by my questioning whether catnip really possesses the medical value that it usually has credit for. No doubt you are right, and I thank you for the information you have given us in the matter; but please, doctor, excuse me, and I would also ask the rest of the brethren who belong to the medical profession to bear with me a little, if I ask for a little more light on the subject. Suppose I should drink a gallon of the strongest catnip tea that could be made, inside of 24 hours, would it do me any harm? I presume that all would agree that it would not. Now, is it not possible that the warm drink, many times, does the work, when the catnip has the credit? A good big dose of hot water, just as hot as you can possibly swallow it, will, many times, do wonders. When I am out in the rain, and get chilled, and I can feel the premonitions of a tremendous cold coming on, I have often rushed for the kitchen stove. If nothing else is handy, I get a good dipperful of hot water from the reservoir, then I get my feet in the oven, and drink and drink. Now, it may be that an infusion of catnip in this hot water would help it, but I can't feel quite sure of it, unless the matter has been carefully tested by earnest searchers after the truth. I did not think of questioning the truthfulness of our medical men, nor have I been so uncharitable as to suppose that any reliable physician would fail to do his honest duty whenever his services were called for, unless, indeed, it were one of the kind of doctors who sometimes get intoxicated; and if I were taken sick when none but the latter kind could be obtained, I think I should feel safer with the dipperful of hot water.—In regard to catnip as a honey-plant, we raised it on our grounds quite extensively; but the cultivated plants, for some reason or other, died and went to seed

so soon after they had given a good crop of honey that I decided they were too short-lived to be allowed to occupy very much space where land is as expensive as our own.

WHERE IS OUR GOAL?

THE COMING BEE.

FOR the last few days I have been thinking over and over again of a wonderful sermon that I heard from the pulpit a short time ago. The preacher—a very earnest man—tried to impress as forcibly as possible this thought upon his audience: That all people, in order to grow, to unfold, to ripen into perfect characters, must have a model—one that they must reach up to, and that a perfect one—even Christ Jesus. Ah, how true this is! Just show me the man or woman who is content to let things slip along in the same old rut, year after year, and I will show you a person whose growth can not be seen. Why? Because such persons have no model. These people have no ambition—no goal. If they had a goal which they were aiming to reach, then, when they compared their progress side by side with this sample, they could see their gain, or loss and profit thereby.

I do not wonder that you or Ernest exclaimed, in Our Homes of Aug. 15, relative to the indolent shop-keepers, "Why can't they jump up and push something?" But, again, the pastor said we should be acquainted, or familiar, with our model or sample, that we might compare or measure ourselves and our work by it, and thus see when we have attained perfection, or how near we have come to it. It was this phrase that led me to see how well the sermon could be applied to our vocation—bee culture—as well as to our lives, and in this manner:

Have we a goal? If so, what is it? We talk and write of the coming bee—what is it? Who can describe it? If we do not know exactly what we want in our ideal bee, or if we are not familiar, either through writings or our thoughts and ideas respecting it, then how can we tell when we have procured a perfect bee? and would any two bee-keepers agree as to its worth?

Map out the bee we all want; discuss each peculiarity, each merit that it must possess, then let us compare each race or strain by this model and see just what is now lacking. Let bee-keepers work together for this end. "United we stand, divided we fall." Combine traits that we think will improve our existing races, and how long would it be before we should see a wonderful improvement?

And how is it with hives and fixtures? See the variety of hives, etc., in use to-day; their names are legion, and the evil seems to grow instead of diminishing. Is this the way in which we are to gain rapidly in apicultural science? No. As with bees, we must find what we need; what ends are to be accomplished, then all work for them. Have our energies concentrated; our ideas culled, and then just imagine the progression we should make, and see if all this could come to pass.

To be sure, we are progressing rapidly, even now; but each of us seems to be struggling on for some unknown or indefinite end. If I should ask such men as Messrs. Doolittle, Cook, Root, Hutchinson, Heddon, and a host of other leading men

of the science, to just what height apiculture is tending, what means are being used to get there; and if they are familiar with the goal we are striving to reach, so that they could tell when it was gained, or compare our yearly progress by this perfect sample, what would be their answer? I certainly could not begin to answer the questions, but probably they could.

I have always been eager to adopt new ideas or inventions, and have prided myself on my progression; yet I realize that I am at a loss to know just what I really want. Of course, I can see, as can all bee-keepers, wherein gain could have been made in certain points; but one or two, or even a score of men and women, are not to accomplish, though they may work hard, what will require the combined efforts of the whole bee-keeping fraternity.

It has always seemed to me, that if Heddon, Langstroth, Quinby, and Root, or all of our prominent inventors, could have come together and worked together on things needed, that more could have been accomplished than is now on record; although, mark you, I would not in the least underrate the immense knowledge they have already given us.

C. H. SMITH.

Pittsfield, Mass.

Friend S., I agree with you in regard to having a goal and a model; and I think, also, that it would be a very excellent idea to map out, as far as we can, just what we do want. I should like bees that gather honey when ordinary stocks such as we now have get nothing. But perhaps when we get this we may find that we have got, along with it, a great propensity to rob; so the matter is going to be somewhat complicated before we get through. The thought expressed in your last paragraph is what we propose to accomplish by bee-keepers' conventions.

LETTER FROM INDIAN TERRITORY.

A SWARM OF BEES FOUND FIVE MILES FROM ANY TIMBER, ON THE OPEN PRAIRIE.

WHILE driving in an adjoining country, some 22 miles from home, I captured a runaway swarm on a large prairie, five miles from the nearest timber in the direction from which it came. I chased them nearly a mile, and succeeded in getting them into a flour-sack, and brought them home the same day and hived them in a new hive, as described by Dr. Tinker, and illustrated in GLEANINGS for Mar. 15. They have done well, and are now storing honey rapidly from Spanish needle.

A FAVORABLE REPORT FROM HIVES USED HEDDON FASHION.

In regard to the hive recommended by Dr. Tinker, I will say that I made half a dozen, and hived prime swarms in them, using two sectional parts for brooding and alternating, placing sections in the case on top of same, with no kind of honey-board between. In each case, where I used the $4\frac{1}{4} \times 4\frac{1}{4}$ sections they were nicely filled and sealed. Upon one where I used sections $4\frac{1}{4} \times 8\frac{1}{2}$, the queen went above. For comb honey I very much like said hive; but from the description, I am of the opinion that the new Heddon hive is superior.

LONGEVITY OF IMPORTED QUEENS.

My imported queen, purchased of you late in the season of 1883, died the following winter, without leaving me a single one of her daughters. I wonder how many of your A B C class have done the same or nearly the same thing. Of course, if I had succeeded in getting a large number of extra good queens, noted for usefulness, you would have had my report sooner. I resolved to tell you this, even if it is seemingly adverse; but such adversity only makes me the more careful, and appreciate success more when it does come.

MY REPORT.

From 8 colonies I have 400 lbs. of extracted honey, 100 lbs. comb. My best colony has given me 10 gallons, and I shall probably get 1½ gallons more. The queen was purchased of G. A. Beech, Quitman, Mo., and is extra prolific.

4—W. H. LAWS, 12-25.

Pocota, Ind. Ter., Sept. 22, 1886.

Thanks, friend L., for the valuable fact you give in regard to the distance a swarm of bees may travel.—I am glad to hear that you succeeded so well with the hive made as mentioned.—Where we sell imported queens late in the fall, we presume they will, of course, live long enough to be of some use next season. Queens, however, like other farm stock, are liable to die at any time, and without any apparent reason. In consideration, however, that you secured no young queens from her at all, we will furnish you another at half price, any time when you feel inclined to order. I believe that imported queens have not, as a rule, proved to be shorter-lived than other queens; and in some cases they have done good service for two and even three seasons.

FOUL BROOD.**FRIEND DOOLITTLE TALKS TO US ABOUT IT.**

FIT seems to be a way we bee-keepers have, of discussing a subject "to death" when once we begin on it, and for this reason I had thought I would not say a word regarding foul brood; but as some errors have crept into this foul-brood discussion, as I view them, I can not well hold my peace, for I deem it wrong to allow an error to pass unnoticed. First, I wish to call to notice that the phenol cure was brought forward to cure *Bacillus alvei*, which, in my opinion, is not our foul brood at all, if we take Mr. Cheshire's description of it, found on pages 644 and 740 of A. B. J. for a truthful outline of said disease. He then says the disease is not carried in the honey, while our honored M. Quinby said that it is, and hundreds of bee-keepers can testify to the truth of Quinby's words. He further says, "There is not a single old idea about this disease (foul brood) which is not incorrect, except that it is contagious." Again, he tells us it is a disease of the mature bees, and that even the eggs of the queen contain *bacilli*, he having counted "no less than nine" in an egg. All this proves to my mind that *Bacillus alvei* is not our foul brood, even although Mr. Cheshire says it is, and that phenol is a remedy for only the first, and not the last. I always prize scientific researches highly; yet, to be valuable to me such research must not run squarely against facts known to exist

from practical experience. Hence I think there is an error somewhere, so I am, like friend Root, skeptical regarding the phenol cure.

Again, Mr. Hoyle is putting forth the idea that the disease is caused by inferior honey, and that it can be cured by feeding "nice honey from flowers or sugar syrup," all of which convinces me that he never had the genuine foul brood as it existed from 1855 to 1875 here in New York.

Malignant foul brood is always aggressive, never retrograding; and although there are times during a heavy honey-flow when the bees make a desperate effort to clean it all out, yet, as soon as that flow ceases, even an inexperienced eye can tell that the disease is surely and steadily advancing, so that in less than one year from the time many cells of foul brood are seen, the colony must succumb to the inevitable; for by that time the combs have become literally a putrid mass. All other diseases of the brood will get well, as Mr. Hoyle speaks of, and would succumb to the mild treatment of coffee, as Mr. Vance tells us about; but the genuine is not gotten rid of so easily. I have not seen a genuine case of foul brood in ten years, and I very much doubt if friend Root has had real foul brood in his apiary. At any rate, I think he has been a little hasty in destroying those affected colonies by fire; for if it were not foul brood, bees by the colony make rather expensive fuel. Just what I should do in a like case would be, when I found a colony which gave appearance of foul brood, I would carefully note the number of diseased cells it contained, and the strength of colony, after which I would close the hive and let it alone for two months, when, just at night, when there was no danger of robbing, I would again examine it and compare notes. If not materially worse, I would again wait another two months, knowing, of course, that there was no danger of its getting so weak that it would be robbed out. If at the end of four months it should be no worse, or had got better, I would call it all right; for by this time the genuine foul brood would have so spread that at least half the brood would be dead, especially in the summer months. If it proved aggressive, I would take the course friend Root has, providing only a few had the disease. If many had it I would treat them on the Jones plan, only I would not starve them as he does; for from my experience with it in 1872 and '73 I can see no need of this starving process; for if swarms from a foul-broody colony, placed in an empty hive, do not have any of the disease, driven colonies will not. Colonies so hived in 1872 did not again have the disease, while driven colonies were left in an empty hive till larvae began to hatch, when combs and frames of brood were given them, and no signs of the disease appeared afterward. By this plan I secured six frames, partly filled with nice worker-combs, which were afterward completed with nuclei, which I should have lost had I used the plan as Mr. Jones uses it. If not wanted as above, these combs are splendid to use in sections, *a la* Walter House, so in this way those six days of fasting are made to be of value to the unlucky apiculturist. Having once "been through the mill" with the genuine, I know whereof I speak.

Borodino, N. Y. G. M. DOOLITTLE.

Since our last report I (Ernest) have been through the apiary personally; and now, having examined half the colonies, I have found five of the very worst forms of foul

brood I have yet seen. I was scarcely able to find a healthy cell, in said cases, but, on the contrary, the brood was fairly rotten with the disease. The cells were sunken, and in many cases the characteristic small hole in the cappings was seen. The young diseased larvæ have that brown, matured, sticky appearance. If a toothpick be dipped into such a cell, the matter will adhere to the point when withdrawn, forming a fine thread. The older larvæ shrivel into a brown color. The disease certainly has a hold of us, is contagious, and is spreading. So far, we have had fifty cases of foul brood. I have found all stages of it in the apiary, from one hive with only an occasional diseased cell, to one having the combs fairly rotten. No, friend Doolittle, were you here to take a look into our colonies, you would be no longer in doubt. We should like "awful well" if we could *believe* that we didn't have foul brood, and I do, think I should throw up my hat and yell if such were the case. Now, perhaps you will ask, "How is it that we reported no foul brood in the last issue, and have it so badly now?" For some reason our apiarist has not caught on to the knack of finding it; and as he stated that he had found no foul brood, it was so reported in GLEANINGS. Feeling a little doubtful that such *could* be the case, I went at it myself and arrived at the results as above recorded. See reply to the following article.

ERNEST.

FOUL BROOD.

ITS NATURE ILLUSTRATED BY EXPERIMENTS.

In writing this article I believe I am prompted by nothing but a real sympathy for you in your misfortune—foul brood in your apiary. On page 734, in one of your foot-notes you make this unqualified assertion: "In spite of all we *can do*, it continues to exist in our apiary." Now, it does seem to me that, if this assertion is to be taken with all the force that the auxiliary verb "can" gives it, that it would be inconsistent to contend any longer with the disease; but as I think it continues to exist in spite of all you *have done*, rather than in spite of all you *can do*, I shall offer you a bit of experience in connection with some experiments with foul brood in my apiary. But let me first remark, that, as foul brood is caused by a microscopic vegetable growth, I would proceed upon exactly the same principle to get rid of it that I would to get rid of Canada thistles or any other vegetable growth; namely, destroy every living plant and every existing germ. Then, and not till then, have you conquered. But, to proceed:

A few years since, I had in my apiary one colony affected with foul brood. Just what I did was this: I exchanged the cover for a new one. I caged about a pound of the affected bees, took one comb containing honey and pollen, without brood or bees. I then smoked the colony at short intervals for several hours, until every bee was in. I then smoked them with sulphur until every bee was dead. I then carried the hive some rods from the apiary, where I dug a pit, in the bottom of which I burned the hive with all its contents. The affected cover of comb card and caged bees I placed beyond the possible reach of bees. I then formed nucleus col-

onies, and waited twenty days, that I might have plenty of brood in my nuclei.

Now I will here remark, that up to this time no trace of the disease was discoverable in the apiary. Now for the experiment: In nucleus number one I dropped down, between two of the frames, a small section of the affected cover, and burned the remainder of it. In number two, upon the top of the frames I placed a small piece of enameled cloth, upon which I emptied my cage of bees, which by this time were not only dead, but so decomposed that they had ceased to throw off any unpleasant odor. In number three I placed a small quantity of the affected comb, from which I had carefully washed all the honey. To number four I fed a quantity of sugar syrup, made with the water that I had used in cleansing the above-mentioned piece of comb. In number five I placed a sheet of foundation suspended in the aforesaid affected frame. After carefully scalding, I scraped it in such a manner as, if it were possible, to destroy every germ of foul brood. The result was, in a short while every colony thus experimentally treated had foul brood. This drove me to the conclusion that the only true remedy is to burn the affected hive with all its contents, and every thing else, indeed, however valuable, with which any foul brood had come in contact.

Just here I will remark, that I plowed the apiary ground; burned the saw, hatchet, smoker, and other things that had been used in the above experiments, together with the five affected colonies in the bottom of the above-mentioned pit. I then filled the pit with dirt, burying the ashes some two feet beneath the surface. I had one case after this, to which I gave the double rite of cremation and burial, and thus ended my experience with foul brood.

Now, Mr. Editor, it seems to me to be the plainest of propositions, that if foul brood depends upon a vegetable product for its origin—and I suppose that no well-read bee-man would deny this proposition—that the method indicated in the above experiments is the only one left us with which to conquer this terrible disease.

As I am conducting a poultry-yard in connection with my apiary, I will give you an item from it. Last July I set eleven hens on 143 eggs. They did not hatch very well, as only 101 chicks were brought off. I caged ten of the hens and gave the 101 chicks to one hen. Our three-year-old boy stepped on and killed one; two I killed, burned, and buried, because they showed symptoms of gapes; the other died from an unknown cause. The remaining 97, at this writing, I see all in perfect health upon the lawn; and I assure you, to me this is one of the most pleasurable sights I ever beheld. Now, as this, at least in this section of the country, is unusual success, and depends upon a great deal of detail in the matter of handling, feeding, pasturing, and cooping, I will refrain from giving it unless it should be wanted.

The honey season continues to be a very poor one. Words would certainly fail me were I to attempt to tell you of our appreciation of GLEANINGS. "Sweet" and I have been seriously thinking of sending for an additional GLEANINGS, so that neither will be compelled to read stale news.

Hearn, Ark., Sept. 29, 1886. P. H. MARBURY, JR.

I grant, friend M., that complete extermination of hives, bees, frames—in fact, every

thing connected with them, is a sure cure; but if a milder treatment will accomplish just as good results, why not use it? We have yet to find a single colony of the fifty, treated in the manner we have before described, that was not cured. We destroy the brood-combs and honey only. We put the bees into a clean hive on frames of fdn., and close them up for 24 hours, after which time we feed them. The hives and appurtenances are thoroughly scalded out with steam. I think it is true, that live bees will not give the disease, where, if they had been sulphured to death with the diseased honey still in their sacks, they would spread it, for this reason: The live bees will consume the honey in their sacks, containing the germs of foul brood, when the same honey in the sacks of dead bees will remain unchanged and consequently be contagious.

Once more: Your nuclei were together by themselves, and, in consequence, the bees of said nuclei probably did and must have intermingled to a greater or less extent. Then if one of the nuclei had foul brood, all would have it. It is this very same thing which we think is spreading foul brood at the Home of the Honey-Bees; so your experiments, although carefully conducted, it seems to me do not prove any thing. As a moral, then, I think it behooves us to have our colonies located pretty well apart.

ERNEST.

LEGISLATION NECESSARY.

DR. C. C. MILLER GIVES US SOME THOUGHTS ON OVERSTOCKING.

In my last article I tried to show that the interests of all would be best subserved by having bee-keeping mainly in the hands of those who make of it a principal if not an exclusive business, and took the ground that legislation is needed to encourage the movement in that direction. At first thought, the necessity for this may not appear. Some may think the matter will regulate itself, and that, as a matter of honor, no one will encroach upon ground already occupied. Unfortunately, cases enough have already occurred to disprove this. I recall the case of G. M. Doolittle, reported by him incidentally as bearing upon some other point, with no thought, apparently, of finding fault with the existing state of things. I do not remember exactly, but I think that, by means of others in his field going into the business, his average yield was reduced about one-half. Mr. Doolittle's plan of dealing with these men who lessen his profits is to give them advice and assistance. Under the circumstances this may be the best way, for they have just as good legal right on the ground as he; but unless Mr. Doolittle is made of different material from myself, he would be glad to have them out of the way, and would be willing to pay a fair price for their permanent withdrawal. Suppose the same state of things existed in farming, so that a man with fifty head of cattle finds the ground for their grazing beyond control, and subject to the whim of every interloper. How long would he continue the business? Just so long as the present uncertainty exists it will be a serious hindrance. Even supposing that no investment whatever were needed in the business, the fact remains that any year a

man may be compelled to seek a new field, possibly at a great distance, and at some expense in the search, and the expense of removal is a serious matter, to say nothing of the breaking-up of old ties. But as the business becomes more settled in its character there will be few without more or less of permanent investment that would be a dead loss upon removal. Buildings are put up, specially adapted to the business. Winter repositories are built in some localities, which are of little or no value for any other purpose. The matter of artificial pasturage would receive a strong impetus if a bee-keeper could feel sure of himself reaping the harvest of his own sowing. I am not over-sanguine as to artificial pasturage; still it is among the possibilities, that, not so very far in the future, there may be bee-farms of 10, 50, or even 100 acres, principally or wholly devoted to honey plants, making a continuous harvest from May to November. But what encouragement have I to invest in such an enterprise, with the probability that, as soon as fairly under way, the proceeds must be divided with others who have borne no part in the expense?

What kind of legislation is needed? I don't know. I have studied very little upon this part of the problem; but whenever bee-keepers are agreed that legislation is needed, some one will suggest a good plan. One way would be to dispose of territory in the same way that the soil was disposed of by government, giving one a deed of so many square miles, or of a township. But it is premature to discuss the kind of legislation needed, unless bee-keepers first agree that any legislation is needed.

A WHEELBARROW.

After greatly delighting my wife with a carpet-sweeper, and nearly as much with a lawn-mower from A. I. Root, I meditated sending to him for a wheelbarrow, as my old one was pretty well used up. It occurred to me, however, that I could so modify a common railroad wheelbarrow, for which I had but very little use, as to answer the purpose. It was very strong, but an awkward, heavy affair. I knocked off the boards that formed the body, or box, and sawed off the upper part of the standards nearest the handles, leaving a light and very strong barrow. Taking off the boards took away the stiffness, so I had two iron rods put on as braces. The load coming close to the wheel makes it much easier handled; and although costing only two or three dollars, I would not exchange it for any \$5.00 wheelbarrow I ever saw. Railroad wheelbarrows may be found at almost any hardware store; and although made in different ways, I think any of them can be easily modified to suit a bee-keeper.

Marengo, Ill., Sept., 1886.

C. C. MILLER.

Friend M., I have many times thought of what you say; and, in fact, when planting our basswood orchard it occurred to me quite often, that, should it ever prove a success, somebody would be almost certain to begin bee-keeping in the vicinity, and thus take advantage of our crop of honey which took us fifteen or twenty years to raise. In fact, a good many asked me what I should do if such a thing should happen. I told them this: That I should expect to keep enough bees to overstock the locality. In fact, I proposed to keep such a number of stocks at all times that it would be a very poor investment for a bee-keeper to locate very near me, and some have already found it so by

trying. Another thing: Is not the competition in any kind of business something in the same line? When one gets a big trade started in the clothing business, for instance, somebody else takes a big part of it by running opposition. If the second man who comes in is a keen, go-ahead business man, clothier No. 1 frequently buys him out, with a written agreement not to go into business again for a term of years. Why should not a bee-man do the same thing? In defense of your position, however, I have very often thought I should like to purchase the privilege of keeping all the bees within, say, a radius of three miles in every direction. I should then have control of foul brood in a way that I have not got it just now.—Thanks for your suggestions in regard to remodeling the common cheap wheelbarrow. I am inclined to think, however, that when you come to see our \$4.00 wheelbarrow you will relent a little—see if you don't, friend M.

THE LOW PRICE OF HONEY.

WHAT ARE WE TO DO TO STIMULATE THE TRADE?

I NOTICE in the bee-journals that honey quotations all say they have more than they can sell, and tell us not to ship just now, as it is slow sale. So it continues all the year, and from year to year. It won't bear shipping, the sales are too slow and too low. I shipped four barrels of extracted honey to Galveston a year ago. The merchant to whom I shipped it says that he has not sold an ounce of it yet. I see by the reports that the honey crop is large in the North this season, more people going into the business every year, doubling yearly or more. The fact is, people don't eat honey. They are very fond of it if it is given to them; but if they have to buy it, it gives them the toothache—makes them sick; in short, they don't like it. Well, we are in the business very extensively, and the question is, how to get out of it or get our money back. I have 400 colonies of bees in the Langstroth hive, and have extracted 600 gallons—a very light crop. I have to keep from three to four men nearly all the time to help me. I pay them 75 cents per day, they boarding themselves. That is very low pay for work among bees, yet I can't sell honey enough to pay the hands, not counting my time as any thing. There is no "let up" in the business. Bees don't care for Sunday. I can handle any bee that I ever saw, with a smoker, without gloves or veil, with my sleeves rolled up, yet it doesn't pay. The more honey I have, the less it pays. If I could get along without barrels to put it in, it would pay a little better. We shall have to put it in some other shape to sell. Can't it be made into candy? Can it be made so as not to run together like stick candy?

I have thought, that if we could get the newspapers to talk honey it would do much in aiding us in selling honey; there is not one man in ten thousand who ever reads a bee-journal, yet all read the common papers. I notice some bee-brother says that no bad reports of bees and honey are ever published. This will satisfy him that I am badly in the ditch, and I suppose that I am not alone, by many hundreds. You will have to put me low down

in Blasted Hopes if some brother can't help me out in disposing of my honey. We all want help.

J. W. PARK.

Columbia, Brazoria Co., Texas, Aug. 17, 1886.

Friend P., I am inclined to think your honey is not first quality; that is, it probably does not command first price in the market. When we get a real nice article of either clover or linden honey, we seldom have it remain very long on our hands; but a lot that is a little off in color, or off in taste, goes off at a very low price. I am afraid, also, the merchant to whom you shipped it does not make much of an effort to sell it in the way of getting it before the people in attractive shapes. I do not believe much can be done in the way of making honey into confectionery. The honey-jumbles I have mentioned on former pages seem to be the best outlet for honey to be used in the way of refreshment. We are just finishing the ten-barrel lot we mentioned a few months ago, and the whole ten barrels have been sold in our own town. They will keep months, or even years, and are just as nice a cake when a year old as when first made. People don't seem to tire of them. The flavor of honey is very perceptible in these jumbles; but even a poor quality of honey seems to go off well when worked up this way; that is, I mean such honey as goldenrod, Spanish needle, or even buckwheat, when it is in the form of a cake, is not objectionable. Friend P., if you will send a sample of your honey to friend Muth, of Cincinnati, I think he can take it off your hands at a pretty fair price; that is, if the quality is fair. Your suggestion is a good one, about getting the newspapers to talk about honey. They are getting to, to some extent, but not very much as yet. Now, then, brethren and neighbors, can't some of us help friend Park out of his dilemma? It seems to be too bad to hear him say, that the more honey he gets, the less the business pays. That is certainly a queer turn of affairs in the bee-business.

BOTTOMLESS HIVES.

HOW THEY ARE USED BY M. BROERS.

AS I wrote you some time ago that I was experimenting on a hive without a bottom, and promised you I would report later, I will now give you the result of my experiments, and the advantages to be derived from the use of a hive without a bottom. In the first place (and I consider it of the greatest importance), there is no possibility of losing the queen when hiving a swarm by her getting under the bottom-board; and in the next place, I can put in a swarm in about half the time it takes to put them in a hive any other way, as the hive can be left open all around, so they can get in from all sides. I have not put in a single swarm from the top of the hive this season, and have not had one swarm to leave me, which, I think, is often caused by being compelled to go into the hive after the swarm is all in, to straighten things up.

Another advantage is, that you can give a new swarm all the air they need, and you know they need a great deal. Where the yard is located on a

slope, as it should be, every shower we have washes out the bottom of the hive, carrying off all filth which may have accumulated underneath, and which, at the same time, makes it *very* unhealthy for the larvae of the bee-moth, which, by the way, can find no lodging-place inside the hive.

Another item is the saving of lumber; and I think, taking all things into consideration, I shall never use another hive in my yard, with a bottom-board.

HONEY AS A CURE FOR ERYSPIELAS.

A neighbor lady tells me that she completely cured a case of this disease with honey, after the doctors had given her child up and said it could not possibly get well. The way she applied the honey was by saturating a sheet with honey and wrapping the patient in it; but it was a very bad case, and the disease had spread all over the child's body. I suppose all that would be necessary would be to cover with a cloth the parts affected, saturating it with honey. The above may prove of value to some of your readers, as erysipelas is sometimes very hard to control.

M. BROERS.

Gonzales, Tex., Sept. 20, 1886.

Friend B., this subject is not new, and a good many have used hives without bottoms to a considerable extent, myself among the number; but when your bees unexpectedly get on to a robbing raid you may wish pretty vehemently you had got tight bottoms to all of your hives, and entrances that could be closed safe and tight. Perhaps in your warm climate there is not as much need of bottom-boards in general as there is here.

SOME EXPERIENCE WITH THE BLACK BEE.

FROM AN A B C SCHOLAR.

VOU say in GLEANINGS you are not bothered much with moths or worms. Well, I have had a great deal of trouble, and can hardly keep them from destroying my strongest colonies. I have one especially that has been losing the young bees for about two months past. I went a month ago to see friends Nebel & Son, of High Hill, Mo. I asked them why I was losing so many young bees, and they could not account for it. I guess from the questions I asked them about bees they thought I was too good an A B C scholar to let moth get in my hives; so after coming back home, and still continuing to study the A B C book, I at last found out by it that it was moths. Well, I went to that hive yesterday and just tore the combs apart. I found some moths, to be sure. I tore out combs with moth-worms in them to the amount of a gallon. I am having trouble this morning with robbers. I have four out of the six now that I can go through and take the moth-worms out.

The season started in well for honey, but it was very dry the latter part of summer, so that now my bees are not making any more honey than they are consuming, so I have to feed three of them for winter. Since starting in with bees I have become enthusiastic in bee culture; and to say I like the A B C book and GLEANINGS is putting it very mildly indeed. There are some writers I have learned to especially like already, such as the writers of Our Own Apiary and Banner Apiary, and Doolittle and others. I expect to build

hives this winter, and think I shall adopt the chaff hive for lower story, and Simplicity above. There are a great many people here who have bees, but they get very little honey from them, because they keep them the old way; but I think a great many of them will soon adopt the modern plan. I am trying to work up an interest, and to get them to take GLEANINGS and get them an A B C book. I think they will come around after awhile. You can consider me your agent here at this place. The future will have to tell how good an agent I am.

J. W. ROUSE.

Santa Fe, Monroe Co., Mo., Sept. 3, 1886.

Accept our thanks, friend Rouse, for your kind words, and also for your kindly interest in our behalf. In regard to moths, you have doubtless learned ere this, from the reading of your A B C book, that Italians are a sure preventive of their ravages. We have only one colony in our apiary where there are moth, and this is a colony of black bees which we recently purchased of a neighbor. What shall we do about it? We will give them an Italian queen and a frame of young Italians.

CALIFORNIA.

NOT "A BEE-KEEPER'S PARADISE."

AFTER being in Southern California for three months, and without seeing GLEANINGS, I feel as though I had lost my best friend, and am losing all track of what our eastern bee-keeping friends are doing. Southern California is supposed to be the "bee-keeper's paradise;" but it is far from it in many respects. I have not yet visited any of the large bee-ranches; but from observation, and conversation with experienced bee-keepers, I have concluded that a good location in the East is preferable to this country.

First, though they can probably get twice as large a yield as we can east, yet I think that, with less work, I can make a colony pay better east than here; for here they consider 3 to 3½ cts per lb. a fair price for good extracted honey, while really for the same grade of honey we can usually treble that price.

Second, while California white sage has had a good deal said as to its excellent quality, I have not yet tasted of California honey that beat our pure white clover, extracted, either in taste or beauty. Again, the bee-keepers of this county have had a lawsuit with the fruit-men (especially the grape-men), in which the latter claimed and proved that the bees injured their fruit, and came out victorious. It is said here that the bee punctures the skin of the fruit, without any aid from other insects. If I am not mistaken, most of our leading authorities say the skin is first punctured by other insects.

What do the latest experiments prove? Do they, or do they not puncture the fruit?

The fruit-crop in this part of California is very light this year. Peaches and nectarines were not more than a fourth of a crop, while the orange crop is light. Apricots and grapes are about the only good crops. The people here now are very busy picking their raisin grapes. A. M. PATTEN.

San Bernardino, Cal., Sept. 28, 1886.

Friend P., there is still a good deal of controversy in regard to bees puncturing grapes;

and although they have left our large crop of Concordas entirely unharmed, I am satisfied that they have annoyed, and perhaps damaged grapes belonging to our neighbors, when the grapes were left on the vines until after frost, or until they got very ripe. I think the fruit-grower who is also a bee-keeper can so manage the gathering of his grapes as to be but little annoyed by the bees; but where people are not ready to gather their fruit when it is dead ripe, and large apiaries are in their vicinity, there is quite a chance of trouble between neighbors.

FRUIT-BLOOM HONEY.

BEE-TENTS, PERFORATED ZINC, ETC.

 SEND you by this mail a sample of fruit-bloom honey. The fruit-bloom honey we get here is good. This year it seems to be better than usual. It is the thickest honey I have ever handled, and it will granulate during the hottest weather. The honey-crop in this section is light, and it may be lighter still before the bees are prepared for winter. This has been a remarkable season. We had much rainy and cloudy weather, but the bees got enough to keep themselves, with some to spare, ever since the first of May. Fall flowers are abundant, and of vigorous growth. My bees, like a great many others reported, seemed to have a swarming fit; but although they nearly all swarmed in less than 21 days, I had no more colonies than before.

(USING BEE-TENTS.

We all know how it goes to open hives during a scarcity of nectar. All may go very well if we have nothing more to do than to peep into a colony now and then; but if we have extracting to do, colonies to unite, old queens to be found, and new ones introduced in full colonies, it is altogether another thing. I often use a tent; but when I take the tent away to commence on the next colony, the robbers go for the entrance in a body. Well, I have tried several plans. Last season I struck on a plan that I can depend on. I took an Alley drone and queen trap, and put wire cloth in place of the zinc at the entrance, being sure that it was secure against the combined strength of the robbers. I removed the zinc, or tin slide, from the top. I have used this with complete success during the past two seasons. I find that the robber-bees that get into the hive before the hive is closed come out at the wire-cloth funnels unless the bees kill them; also the bees of the hive can come out if they want to. Of course, this trap is to be removed as soon as the bees are ready to defend themselves.

PERFORATED ZINC.

Last April I got of you two full sheets of your perforated zinc; also a tin-bound perforated zinc honey-board (I would take this tin binding off if I knew the honey-board would be large enough afterward). I cut the two sheets of zinc into honey-boards, and make also 12 Heddon and one Tinker honey-boards to fit the Simplicity hive. They are beveled the same as a Simplicity hive; and when in place they show on the outside and have a bee-space above and below, the same as the Heddon. I like the Tinker, or strips of zinc between slats,

best. I should not like to do without these honey-boards, and have to pry and pull to get the frame apart, as I did before this season. I have a simple arrangement to get the honey-board loose from the lower frames very quickly.

Some time ago (July 15th or Aug. 1st) Mr. Muth mentioned something in GLEANINGS about some of his honey having an appearance as though soot were mixed with it. Now, I must always take my surplus honey away from the bees before July 10 or they will mix with it more or less juice from decaying cherries, a small quantity of which will give the honey this sooty appearance when extracted and placed in glass receptacles. Probably this is what is the matter with Muth's honey. I evaporate all honey not ripe by the 10th of July, by running over an arrangement at a temperature of over 100°.

5—W. E. PETERMAN.

Trappe, Montg. Co., Pa., Aug. 19, 1886.

It is true, robbers will sometimes pounce down upon the entrance immediately after the tent is removed. To prevent this would-be pilfering we contract the entrance for the time being so that one or two bees can easily stand guard. Indeed, it is well to keep the entrances of all weak colonies thus contracted during a dearth of honey.—The slatted honey-boards, we should judge from reports received, have doubtless come to stay; in fact, Dr. C. C. Miller, who has just been with us, says he would not now do without them. With the perforated zinc between the slats they will be doubly valuable.—I hardly think the smoky appearance of Mr. Muth's melilot honey was caused from the juice of decaying cherries, and I should be a little skeptical about its coloring your honey in the way you describe.

SOMETHING IN REGARD TO DRONE-TRAPS.

ENTERPRISING CHICKS, AND HOW EXPERT THEY BECOME IN CATCHING DRONES.

 HE best drone-trap ever invented is not equal to a dozen half-grown chickens. We feed the chickens in the apiary, and there are about a dozen that never leave it. They eat drones from the time they commence coming out in the morning until they stop in the evening, and some hot days they eat so many drones we don't have them to feed. They became so expert they could catch them on the wing every time, and sometimes two chickens would be jumping up after the same bee. When drones got scarce they began to try few workers, but didn't relish them, for the workers would sting, even after they were picked to pieces and swallowed. I saw one chicken swallow a dozen drones in five minutes, and then look for more. They also ate a few clipped queens, and seemed to relish them as well as they did drones. They kept the apiary stripped of drones, except in two hives, which were so high from the ground they could not reach them. The chickens were White Leghorns and Plymouth Rocks.

Bees did poorly until morning-glories commenced blooming. The honey-crop is poor in quantity as well as in quality in this county.

W. W. SOMERFORD.

Navasota, Grimes Co., Texas, Sept. 27, 1886.

WHAT TO DO, AND HOW TO BE HAPPY WHILE DOING IT.

Continued from Sept. 15.

CHAPTER XXV.

By this shall all men know that ye are my disciples, if ye have love one to another.—JOHN 13:35.

In this chapter I am going to say something about attending fairs—county fairs and State fairs, and I am going to take the position, also, that we ought to go. The friends who have followed me thus far surely know, without my telling them, that I do not approve of horse-racing, games of chance, or gambling of any kind, or betting; neither do I approve of throwing balls at dolls, and getting a cigar every time you throw straight. I am sorry to see these institutions still kept on many of our fairgrounds. I am very glad to note, however, that in many of our State and county fairs—in fact, I think I may say in the most of them—very great improvements are being made in the way of encouraging better morals. The State or county fair now that allows intoxicating beverages to be sold on its grounds is behind the times, and I think a progressive people will very soon give them to understand that such management will not long be countenanced, and that they can not long prosper.

Well, what shall we do at our county fairs, you may ask? My reply is, that we should make them the means of receiving and giving knowledge. Let every tradesman and every producer of any crop of any kind go and exhibit his wares; let him stand by them and explain to people all about them. Let us all endeavor to get acquainted with each other, and in this way I think we fulfill the spirit of the little text at the head of this chapter, inasmuch as we can not love people very much without knowing them, at least to some extent. One of the *grand* things to be done in this world is to get acquainted. Staying at home and attending to your own business is all right, if not carried too far. No doubt there are people in every neighborhood who go visiting *too* much; but I think it is equally true that there are almost as many who do not go visiting enough; that is, people who do not meet their fellow-men so as to exchange ideas, and keep posted in regard to the events of the day.

I have, at different times in my life, felt and said that I was tired of fairs; that they were pretty much the same thing every year; that I had no objections to offer, if people wanted to go and enjoy such things, but that I would not go across the street to

see all they had to show. Did you ever feel that way, my friend? Well, now, if you have any confidence in my ability to advise, let me tell you that such thoughts are wrong. I believe they are Satan's promptings. You have no right to stay away from all kinds of gatherings, even if you do feel like it. There are duties and responsibilities that fall upon you naturally, and which you can not discharge unless you are among the people and acquainted with the people. If things are managed badly at our fairs, go with the spirit of Christ in your heart and cheerfully take hold of the task of making them better. I am sure the same is true in regard to bee-conventions and class conventions of every description. Besides, in the end it will pay you to go. You may not realize at once that you have been benefited; but, go to your State and county fair; look at every thing that is to be seen; endeavor to understand how different industries are carried on; ask the purpose and use of every thing you see, with which you are unacquainted, and you will, even if you do not realize it at the time, find out afterward that you have acquired valuable knowledge—yes, very valuable. A great many times I see people wasting time enough in accomplishing some desired end to have done it a dozen times over had they known of cheap little implements already in the market for doing this same thing. Many times you pay a hired man money enough for a single week's work to have paid for a tool with which he could have done the same work in one day. Go to your county fair; take along the produce of your farm or the product of your workshop. Explain to the crowds you will meet there how your work is done, and why it is worth the money you ask for it. Let your light shine.

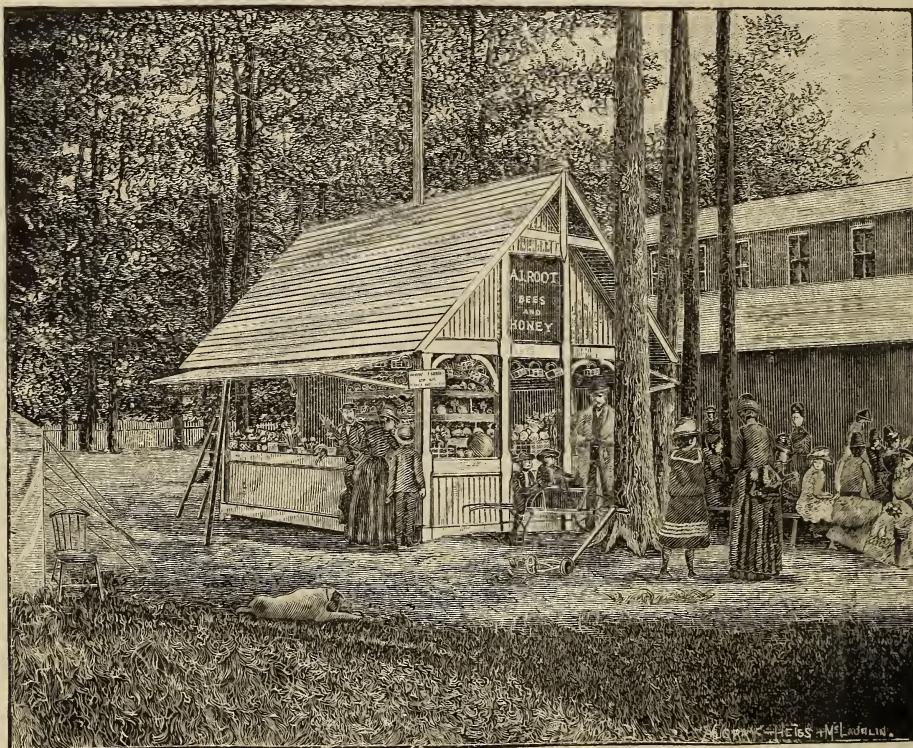
Only a single roadway separates our market-garden grounds from our county fairgrounds, and therefore it is an easy matter for me to exhibit any thing I may have for sale. Last year we made a display of honey; and for the purpose of showing it to good advantage we had a little building put up, which our artist has shown you on p. 816.

You will notice, friends, that there does not seem to be a very large crowd around the building. Well, when the artist came

around to take it, there did not happen to be many people around at the time. I guess it was just about time for the horse-races, and so it is mostly women and children who remain around the stand. In the center of the building is a pyramid of shelves. This was mostly filled with cabbages, large ones at the bottom and smaller ones at the top, until the top shelves had some that weighed only a pound apiece. These we offered for a penny. Many of them were the product of the shoots that put out from the stumps after cutting our early Jersey Wake-fields. A basket of them was kept on the

board was put up on another corner of the building, reading as follows: "Some of the products of our Medina clay soil." This was for the encouragement of those who were in the habit of saying that certain things could not be raised in Medina clay.

The individual behind the counter, with a package in his hand, is supposed to be your humble servant, and I stayed there the greater part of the three days the fair was in session. I formed, during these three days, many new acquaintances, exchanged new ideas with hundreds of people, and learned some very important and valuable facts by



A GLIMPSE FROM OUR COUNTY FAIRGROUNDS, WITH OUR BUILDING FOR THE SALE OF GARDEN VEGETABLES AND HONEY.

counter, with a neatly printed card, reading, "Only 1 cent each, or 10 cents per dozen." The counter, clear around the outside, was covered with beets, squashes, potatoes, cucumbers, tomatoes, baskets of peppers, etc. But the particular vegetable on exhibition was "White Plume" celery. This was arranged in celery-glasses, clear around the building. We soon discovered that people were at a loss to understand whether these vegetables were simply for exhibition or for sale, so we put up little boards, saying, "These vegetables are for sale." Another

talking with old farmers. At first it seemed rather dull, but I had made up my mind that it was my duty, and I determined to carry it out. I have already told you of the difficulty of selling the products of our modern agriculture. Our ground is now getting in such a state of cultivation that we raise more on a little plot than our whole town can consume; in fact, it begins to be quite plainly apparent, that, on the ten acres we now have under cultivation, enough garden-stuff can be raised to sell in our town of less than 2000 inhabitants so as to amount to be-

tween two and three thousand dollars yearly, in cash. The principal difficulty that meets me now, however, is, that it costs almost as much to raise and sell the stuff as we get for it; therefore we must reduce expenses by making horse-work take the place of hand-work; and we must also learn to raise fine products that will command high prices, without very much labor in getting rid of them. Well, the county fair promised to assist greatly in all these points; and by the close of the third day I was very much pleased to find that my plans had been realized. The principal crop sold was the celery, and the "White Plume" celery is just the thing for such an undertaking. When you get any sort of commodity started on the fairground, it sells itself. If a man or woman is seen with a nice bunch of celery in her hand, everybody she meets wants to know where she got it — price, etc.; and by and by, if you do your part faithfully, you will soon have everybody on the fairground wanting a bundle of celery. We sold 75 lbs. to the dining-room people, and we retailed enough more to make it toward 500 lbs. Our retail price is 5 cts. per lb.; but to the dining-room people, or anybody else who buys 100 lbs. or more, we sell it for 3 cts. per lb. Cabbages sold pretty well, but the celery was the great staple of our vegetable and honey-stand. Honey is now so staple an article of diet almost every day in the year in Medina that we sold but comparatively little this season.

You will notice baskets hung around overhead. These are a great convenience in any such business. The baskets can be furnished for 5 cts., at a small profit, and a great many times people will buy things if they can get a basket to carry them in, when they would not take them otherwise. Have your baskets handy, and have every thing handy.

We kept paper bags right under the counter, on a shelf prepared on purpose. I learned a great many things in selling before a crowd like the crowd you meet on fairgrounds. One important thing is to be always busy. There were three of us taking care of the stand. The man who had charge of the honey kept busy most of the time in filling little glass pails with honey. The woman who assisted employed her spare moments in shelling lima beans. The beans were retailed at 10 cts. per half-pint berry-box full. I was kept busy most of the time in weighing the celery, clipping off dark or discolored leaves, and filling up the celery-glasses. When the contents of a glass were

sold, it was slipped into a paper bag; then some more celery was weighed out and put in its place. Many customers came up with a rush, and were in a hurry, therefore I had my paper bags already open, the bottoms pressed out, and every thing in readiness so I could do up the package in a twinkling. You may ask, "Why not have them wrapped up beforehand?" My friends, that does not work well. Customers want to see things, and examine them before the articles are wrapped up. Now, this one thing of being busy is very important. A man who sits down and smokes until purchasers come will not sell half as much as the one who has his coat off and is busy. Somebody says, "What are they at work at down there?"

"Why, they are selling celery like every thing. Just see. They are taking it off just as fast as that fellow can wrap it up. Let us go and look at it."

When they come up to the stand, somebody says, "Where did this celery grow?"

I reply, that it was raised right over the fence, and show them where they can see the white tops of it glistening through the trees. Then come a good many questions; and when people find it can be raised on our soil they naturally inquire if plants will be ready for sale the next spring. I tell them that we always keep strong transplanted plants ready for customers, from the first of April to the first of September. Thus you see our plant-business is advertised.

Then somebody wants to know about Terry's system of raising potatoes. My reply is, "Friends, you can see the potatoes growing right over the fence there, and here is Terry's book, that tells all about just how to do it; and here are some of the potatoes, just as they were dug—no small ones thrown out at all. They come out of the ground just like this."

Now, almost every farmer's boy is interested in nice fruits and in nice vegetables; and especially is he interested when he sees the man behind the counter "just taking in the nickels like every thing," for something that he can raise on his own grounds. All parties are benefited. The talk in regard to the things is a means of educating the people, and the result is a developing of the resources of our nation, the encouragement of agriculture right around our homes, and especially the encouragement of getting large crops on small areas of ground, thus bringing the whole matter within the scope of people of humble means, and those who have only small homes,

CHAPTER XXVI.

Be ye therefore perfect, even as your Father which is in heaven is perfect.—MATT. 5:48.

Some of the friends may wonder what the above text has to do with raising garden-stuff. Well, I hope I may be able to make it plain that it has a great deal to do with it. At our teachers' meeting recently, the question was asked whether it is indeed possible for *every one* to attain to the *high* graces of Christian life. Is it within the powers of ordinary individuals to lead sanctified, holy lives? I asked the chairman of the meeting to let me talk a little; and when permission was given me to "talk," I told the friends that I felt sure that it *is* within the power of *every one* to lead a life of purity, but that, like almost every thing else in this world, it needed watchfulness as well as prayerfulness. It is as surely possible as it is for one to be proficient, and to excel in business matters. And then I told of some of our trials in getting clerks who could do business without committing annoying and expensive blunders. Our book-keeping, perhaps, requires the most care and precision of almost any one department. When help is needed on the books, we try first one and then another; and may be we get discouraged, and sick of thinking of bringing any *new* help at all, it is so rarely we find somebody who can be trusted. In using the word "trusted" I do not mean that it is difficult to find those who are *honest*; but the great difficulty is to find some one who is *careful*—always careful. The clerk who *credits* a man when she ought to *debit* him can not hold her place very long. She may explain that it was an accident, and nothing intentional; but the world at large nowadays demands accuracy; it refuses to be satisfied without it. Well, at one time I decided that such positions must be given to none but elderly people, say those toward forty years of age. Pretty soon, however, a girl in her teens upset all this philosophy by showing more care and precision than any one who had had any thing to do with the books for a long while, and she did this, too, with only a *few months'* experience. I was astonished to see her go along day after day, doing every thing just right, and doing it in so quiet and still a way that one would hardly know that she was in the room. I began to make it a study to see where the secret lay. For the help of others who had failed I wanted to discover some great truth

that might be helpful to the rest. I found it. A great part of her success was because, while at work, she did not take her mind nor scarcely her eyes off from her task. She never spoke to any one unless business demanded it; and it seemed surprising that she could keep the run of things, to the extent she did, and yet ask so few questions. No matter who came into the room, or what was going on, she never looked or seemed to notice. Had an earthquake occurred here, such as the friends had in Charleston, probably she would have looked up and inquired what the matter was; but I rather think, my friends, she would have been one of the *last* to stop her work. You see, she was in the habit of letting nothing divert her from the work in question; and I believe the greater part of the mistakes that are made in this world are because the one who does it was looking at something else, or thinking of something else besides the work in hand.

Now, I do not mean to be partial to the other sex, and I am happy to state that we have boys in our establishment who do just about as well. While age is an advantage, it is only *one* of the elements of success. You may say it is natural for some people to be careful and accurate, while it is not natural for others, and that you have no right to expect it. I admit this; but for all that, the same rules will apply in any kind of life—making garden or driving team. Have your thoughts about you, and bend your whole energies to the work about you; and if you succeed, you *must* do this. Whether you are *hired* to drive horses, or whether the team is your own you are driving, to make a success of your business your heart and soul must be in it. I think our text touches the spirit of the matter. Never stop short of absolute perfection; that is, so far as it lies in you. In spiritual things I think the same rule applies. The question comes up constantly, Which shall it be—self or the honor and glory of Christ Jesus? You are perfectly free to decide which. If you let self rule, you may obtain a momentary gratification many times; but if you let the teachings of Christ take the place of selfish feelings, the result will be a full and glorious character. A self-sacrificing spirit will ultimately make your life a

blessing to *yourself* and a blessing to those around you; and, if I am correct, most of our troubles come from letting self rule, instead of Christ's spirit. Sometimes it seems very, very hard to put down self and exalt the Master; but it can be done, and must be done. In business matters, also, it is hard, many times, to succeed in making your business pay expenses, especially with the sharp, keen competition that is round about you.

And now I want to point out one more difficulty in making business a success. You will have to strive and work hard, just as you strive and work hard to have a clear conscience, and to be at all times *pure in heart*. You must not let expenses exceed your income; that is, you must not pay out more money than you take in. You may feel like complaining that your lot in life is hard. Satan will tempt you to feel that you are working like a slave, and he may tempt you to revolt, and declare you won't do it, and that you are going to take things easy, as others do. Beware of such thoughts. The *ease* that he holds up to you temptingly is not ease—it is *bondage*. Very likely other folks around you seem to succeed without half the exertion you are making. That has nothing to do with it. I do not mean that you must overtask your strength, for that would be folly. Take such strength as God gives you, and make the most of it you can. But have your wits about you, and keep watch of things. Suppose, for instance, you are obliged to hire a man to plow your ground. Be sure that, when he makes his appearance at 7 o'clock in the morning, every thing is in perfect readiness for him. And, by the way, before hiring a man with a team I would have an understanding as to how many hours he is to work for you; in fact, the better plan is to have him work *by the hour*. If he comes at 7 and works till noon, call it five hours. A man with a good team should be worth 30 cts. an hour, or may be 35. If he is half an hour late, 15 cts. or more is out of *his* pocket and not *yours*; and if there has been an agreement beforehand, there need be no differences in regard to the matter. If he is going to plow, be sure that the plow is in good order, and see to it the night beforehand if possible. You can not afford to pay a man three or four dollars a day to work with poor tools, nor can you afford to have the team stand still while you have him fuss with the tools. Have a good sharp point on the plow, before 7 o'clock. If you are to

furnish him his breakfast, be sure that is disposed of before the time to commence. (I believe the women-folks usually *do* see to that part.) Have the plow on the spot also; have the doubletrees attached; see that the clevises are stout; that the pins that go through them are fastened by leathers, or in some other way. I have seen two men and a team stand still a good many times while they hunted and fretted, may be, for a pin that came out of a clevis. If there are any bolts on the plow, see that the nuts are turned up tight. The plow should also be bright. Perhaps the quickest way to brighten it, if it is not kept bright, is to run it through a bed of gravel; and when it is once nice and bright I would give it a thorough greasing with the good cheap lubricating oils we have nowadays. A good big jugful or a canful should be always near at hand. Very often the time of a team can be saved by a little forethought. If you are going to plow, and then draw manure awhile, push the wagon up to the manure-heap by hand, if you can not do any better, and load it while the team is plowing. Keep in mind, that, while a man and team is worth 30 cts. or more an hour, the time of one man is worth only from 10 to 15 cts. an hour; and this one man can very often save the time of two horses and two men. For the same reason, a boy and a man work profitably together. It always makes me feel guilty when I manage in such a way that an expensive man is seen going across the lots after a jug of water. After it happened once or twice, I provided three or four water-jugs. Each jug had a cork in it to keep out insects. I prefer corks to corncobs or any such like substitutes. I also want smooth clean jugs. The hands are carefully instructed to take a jug of water along when they are going some distance away to work. A boy at work with a man will do such errands, and, a great deal of the time, find work that he can do as fast a man could do it. When the boy is not wanted for any thing else, he can busy himself in picking up stones and roots on almost any piece of ground. Whoever manages the work needs to be constantly looking forward to the next job, and to make it his business to see that every thing is in readiness for it. The boy can bring the necessary implements, and have them in place. If manure is to be hauled, the manure-forks can be right at the spot when wanted. Sometimes a teamster will be all hitched up, ready to start, and then have to chase about to find his whip. I find it

cheaper to have three or four whips than to waste the time of a man and team in looking after one that may be mislaid. Manage so that the team may never have to stand still while a wagon is being greased. Grease the wagon nights and mornings, or on rainy days. It has been urged, that the team ought to rest occasionally, any way. Very well; rest them by all means when they need rest; but if a team is in proper order, and of the proper heft and strength for the work to be done, they rarely need more rest than they ordinarily get. Another thing: The rest that usually comes when hunting for a whip, or fixing a broken tool, *may* come when the horses need it, and it may *not* come when they need it. If a proper *system* is observed in regard to the work, the rest can be given just when they need it, and at no other time.

My friends, did you never feel like saying that some days were lucky days? Sometimes every thing goes right straight along, and you accomplish a great deal more in a day than you expected; and how pleasantly you feel at night, to think that the tasks and burdens that lay before you have all been properly finished! At other times, every thing seems to go wrong-tools break, get lost, things do not come out right, night comes, and almost nothing is accomplished. The latter are the "unlucky" days. Now, the real secret of it is, good management and bad management. *Sometimes* things come out right by accident, as it were; again, by *accident* every thing comes out wrong. The intelligent and successful manager must take advantage of accidents or unforeseen circumstances; he must also look ahead and be prepared for unforeseen emergencies. I presume likely, that, if I excel in any one thing, it is in being able to manage a good many helpers, and have them all pay expenses. I believe the first person I ever employed was my brother; afterward a neighbor's boy, and I enjoyed my first teaching, watching and planning the work for them. I used to enjoy measuring their capabilities. When I could make them profitable, more help was employed. Finally I discovered that girls and women could do many things as well, or better, than boys and men, and so I commenced employing and teaching them. One who has hands at work for him must be constantly using his brains in devising plans for shortening the work. In my daily or almost hourly visits through our rooms and over the grounds, I am continually inventing shorter and better

methods. In reading agricultural books and agricultural papers I catch hold of many important hints. Terry's potato-boxes, pictured on page 408, have been a great help; and now I make it a point to insist that every thing that is to be picked up, whether sticks, stones, pieces of bee-hives, or roots and stones in the field, shall be put into baskets or these boxes. We keep a lot of them in the tool-house, and a lot of them scattered over the grounds in different places. If left upside down, the weather does not affect the boxes very much. A few days ago one of the men suggested, while he was digging out stumps, that the piles of roots and rotten wood would make good firewood, and he volunteered to pay the cost of drawing a load of them up to his house, if I thought best. I caught the idea at once, for it is some labor to pile these up and burn them. Well, I discovered that it was quite a little task, even with our small boys to help, to pick up a wagon-load of them, therefore the potato-boxes were brought out; and as the roots were dug from the soil they were tossed into these boxes. When the wagon came around, before I knew it they emptied the boxes into the wagon, thinking they were making a great saving then. But I suggested, "Why, look here, my friends, just set the boxes right into the wagon, and don't pour the roots out until you get to the woodhouse where they are to be stored."

"But we can't get as many into a load," suggested some one.

"But, my friends, you can get on even *more* at a load," and I showed them how to put the boxes on top of each other, so that they rode safely.

Many farmers dig their potatoes and throw them in a heap in the fall, and the same with corn; and I have seen them dig basketsful, and pour them down in heaps in the field; then they are picked up, put into the baskets, and poured into the wagon. When the wagon gets to the cellar they are picked up again, and then poured into the bin in the cellar. When they are sold they are picked up another time, poured into the wagon, possibly, picked up *still* again, and poured into the bin or on the cellar bottom of the purchaser. Our potatoes are dug and put into boxes, and we have boxes enough so they stand there in those same boxes until they are to be used, or until they are planted the next April. The boxes are of such a size that they can be set in a wagon without much waste room; in fact, we can easily put on an ordinary wagon all the

team can draw of boxes. We draw ours to the tool-house, and place them overhead on boards, separated so the air can pass freely up between the boxes. The boxes, as you know, have openings in the sides and bottom, so that the potatoes are thoroughly aired, while they are kept out of the sun. There they are to remain until the weather is so cold there will be danger of freezing, then they go into the cellar, with the boxes placed far enough apart so they still have air. Last year, our potatoes were put into barrels and taken into the cellar at once; but I soon found they were rotting in the middle of the barrels, while they were all right near the outside and near the top and bottom. Think of the amount of slow, expensive, back-breaking work that can be saved in picking up potatoes by using boxes!

Well, the saving of labor is not all. Think of the injury that is done to fruit—yes, and

to potatoes too—by pouring them out so many times, and picking them up. Some farmers use scoop-shovels, and there is a scoop-shovel made on purpose to use for potatoes; but isn't it a great deal better to pick them up just once, and not have them handled any more until they are in the hands of the consumer? I would do the same thing with fruits and vegetables of every kind, as far as possible—have them handled only once. I would put strawberries and raspberries into fruit-boxes, and have those boxes put right into the hands of the consumer, without any pouring or scooping up.

Now, then, in concluding my chapter, which started out with a text enjoining perfection, I exhort you never to stop short of the *best* way of doing things. Don't tolerate imperfect and slipshod ways. Try to do in the best possible way, every thing that is to be done.

CHAPTER XXVII.

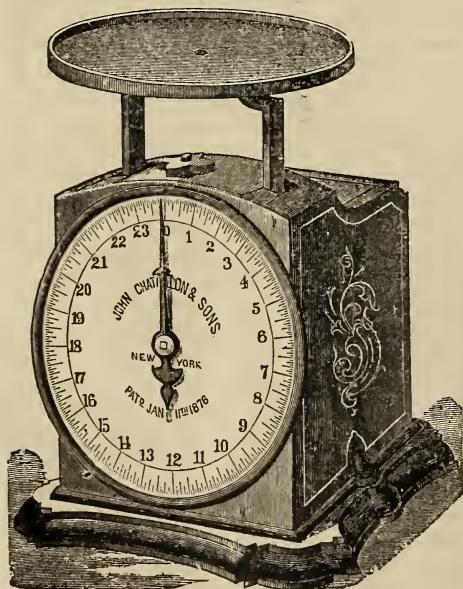
A false balance is an abomination to the Lord: but a just weight is his delight.—PROV. 11:1.

The men who go with our market-wagon are Christians, and I do not know but that I might say they are *young* Christians. And let me tell you, my friends, if you have never tried it, there are few better places to test Christian endurance than in going from house to house to sell stuff. Sometimes the best of them complain that it is a wearying and trying business to one's patience. My reply is, "Very likely, boys; but did you never think it is a grand place to show forth the spirit of Christ, and to work for him?" One who can go from place to place, and meet people at all hours of the day, sometimes, as a matter of course, when he is unwelcome, needs to be fortified with a Christian spirit, it seems to me, if any one does. The tradesman who stands behind the counter, needs Christ's spirit too; but he is, in a sense, more independent, because people come to *him*; but in selling garden-produce, on account of the perishable nature of the commodity you are almost obliged to go after your customers.

There are, perhaps, few things in this world that stir up more ill feeling than misunderstandings or dissatisfaction arising from short weights and measures. Our text strikes right at the root of the matter;

therefore it behooves the one who sells garden-stuff, to be *just* in his weights and measures. And this calls to mind what I have spoken of before—the very uncertain way in which stuff is sold. Perhaps the most common way with the greater part of the stuff is to sell it by the quart, peck, or bushel; but if you set about it you will find that it is a very hard matter indeed to determine what is a quart, peck, or bushel. When friend Terry started his potato-boxes, column after column was occupied in the *Ohio Farmer* in telling just how large the box should be to hold an exact bushel. If I am correct, it was not settled even then to the satisfaction of all parties. Of course, we know how much a bushel of potatoes weighs, for the law fixes the weight, and so it does that of almost all other produce. But it is not always convenient to take the weight. Potatoes, corn, and apples, are usually heaped up on the half-bushel. Some, in fact, go so far as to say you must put on all you can make stay on. This will do for apples; but when it comes to peaches worth two or three dollars a bushel, most dealers claim that the measure should be only fairly rounded; so you see the quantity purchased or sold is very uncertain indeed. If you buy

half a bushel of peaches they are generally rounded up just a little. In transportation they get shaken down so the basket is hardly level full. Now, if you sell them out and heap up your measure there is great danger that you do not get cost for them, let alone the expense of doing business—that is, if you want to sell things on a small margin, and small margins are the rule nowadays—I mean, of course, where you buy the fruit to sell again. We sell fruit on our wagon along with vegetables, to help pay traveling expenses. By the time our wagon had been running about six months, we discovered that by far the better way is to sell things by weight. Look at the market reports in any of your papers, will you? Cabbages are quoted at from three to four dollars per 100 heads. Now, the heads in our field weigh from one to ten pounds. Beets, onions, radishes, asparagus, pie-plant, etc., are usually sold by the bunch. Well, what does a bunch weigh? Sometimes more and sometimes less; and this leaves it for the gardener to give just as small bunches for a nickel or a dime as his customers will stand. Worse still, the bunches are not all alike. Now, we make our bunches by weight. We weigh them up, just so much in each bunch. Our cabbages are put on the scales, and sold for so much a pound; the same with celery, squashes, etc. The nicest thing for weighing small quantities is the little scale below.



THE "FAVORITE" FAMILY SCALE.

The scale stands in a convenient corner of the wagon. When the purchaser picks out just the article wanted, it is dropped on the scale, and both parties can see at a glance just what the article weighs. There has been one objection made to this—that a certain squash or melon may be more desirable than the others. Well, our plan is to fix the price at so much for first-quality goods. An indifferent specimen is sold at a less price per pound. Celery is sold the world over, I believe, at so much a root or dozen roots. In our grounds we have a good many roots that weigh a pound each; but by far the larger part of them do not weigh half a pound each. Is not so much a pound by much the fairest way?

Since school has commenced, the small boy we had on our wagon is obliged to attend school, and two men now take charge of the wagon. We have the lines lengthened out so the driver can stand on the step at the back end of the wagon. See cut opposite Chapter XXI. While the driver stands on the seat, his scales are on the low shelf at his right hand, ready to drop any article on them that needs to be weighed. Two men manage the wagon entirely. A trusty horse is used, and a couple of hooks are fixed to hold the lines right at hand on the back end of wagon. Whoever gets through with his customer first, takes the lines and drives along to the next stopping-place. The wagon seldom fails to make a trip on account of the weather. A rubber blanket is carried along to cover the horse when it is rainy. Pieces of enamel cloth of suitable sizes are in readiness to cover articles that may be injured by rain—honey-jumbles, some kinds of fruit, etc. The receipts from the wagon average, in cash, from \$0 to \$0 dollars per week, going every forenoon. The expense of the trip—men, horse, and wagon, is about \$2.00 for each forenoon. Thus you see it costs 20 per cent, or one-fifth of the value of the articles, to sell them; therefore if any one will come and take our stuff from the grounds, in quantities sufficient to gather the crop to order, we can afford to let him have it for one fifth less. We estimate, also, that we can not afford to carry any article on the wagon unless we can make a clean profit of at least 25 per cent; and sometimes even this is too close a margin. Peaches that cost a dollar a basket can not well be sold for less than \$1.50 on the wagon.

HEADS OF GRAIN FROM DIFFERENT FIELDS.

AN INCREASE FROM 4 TO 26 COLONIES.

ABOUT two years ago I bought two colonies of bees, and had one left in the spring. I also bought one of your A B C books and commenced to study it. That summer I got a queen and $\frac{1}{2}$ lb. of bees of you, and let them out in my empty hive, with one frame of brood taken out of my other hive. They went to work immediately, and did first rate; so by fall I had five colonies, but I got only a little surplus honey. Last spring I had four good strong colonies left, one weak. One died in June. I divided them, and made eight colonies of them; then in about two weeks they commenced swarming. Oh my! how they did act! I had no hives on hand, and had to make them by hand. You can rest assured I was busy. They kept it up until I had 26 colonies before I could stop them. I put three back in the hive they came out of, and tore down the queen-cells, and had two swarms go off. When they stopped swarming they commenced storing honey.

I had about 500 lbs. of surplus comb honey, and have 26 good strong colonies with plenty of stores for winter. E. R. FOSMIRE.

Cromwell, Union Co., Iowa.

GIVING FRESH AIR TO CURE FOUL BROOD.

About June 10th I bought 7 colonies of bees for \$1.00 each. They each had foul brood in them in all stages, from larvae 3 days old to workers nearly ready to hatch. I moved them 9 miles to a new locality, and for 2 weeks the odor from them scented up my whole apiary of 28 colonies. All I did was to go out every night and lift the covers off and pull the cloths from off the frames to give them fresh air. As soon as I commenced uncovering them at night, so the dew could fall on them, they commenced improving, and now there is not a sign of foul brood among them. Two of them superseded their old queens. The two young queens are extra prolific, and all 7 of them are doing well.

The honey crop in this part of the State is extremely small and poor in quality, there being but little basswood bloom. W. W. SOMERFORD.

Navasota, Texas, Aug. 15, 1886.

Friend S., I should be almost inclined to believe that you did not have the real foul brood if you cured them by giving them fresh air only. Perhaps the change of locality had something to do with it. If such were the case, they may have been gathering something in their old locality which brought on and sustained foul brood, and the change removed them from the cause. Or, possibly, as some claim, they got well themselves.

SWARMING AGAIN; AN EXPERIENCE SIMILAR TO G. F. ROBBINS'.

I will now make my report for 1886. I commenced the season with 80 stands, and bought 8 more in box hives for \$10.00. I increased to 120, but have doubled back to 112. I took 3000 lbs. of comb and 1000 lbs. of extracted honey. I have sold most of my comb honey at 12 $\frac{1}{2}$ to grocers, and 15 cts. retail; extracted, 8 and 10 cts. respectively.

The season here opened splendidly with maple and willow, cottonwood, fruit-bloom, locust, and raspberry. All came in in their turn, so that but

few of the bees needed stimulating. I have never been able to get the bees to take artificial pollen, probably on account of the abundance of early flowering trees, maple, willow, elm, cottonwood, etc. White clover came on about ten days earlier than usual; and as I was engaged in other business, it found me unprepared for it; but having plenty of materials I soon had surplus arrangements on all, and all went nicely till the first of June, when they took the swarming fever. I shaded the hives and tried to give plenty of room, but swarm they would — first swarms, second swarms, and re-swarms, or those that came out after hiving. One hot Sunday there were 14 of them in all. Often two or three would go together. I would generally hive them together, as I had no time to look up queens, and could find but little help. Well, if you want to know any more, re-read G. F. Robbins' "Fun among the Bees" in GLEANINGS of Sept. 15th. The excessive heat and abundant flow of honey was the cause, I think. The weather turned dry the last of June, and closed the honey season. Spanish needle, though full of bloom, was an entire failure.

I have tried Heddon's plan for preventing second swarms, and have generally succeeded.

Chillicothe, Mo., Sept. 30, 1886. BEN A. RAPP.

THAT CARNIOLAN QUEEN.

I have seven colonies now. I started with two in the spring. They are all in good condition, and are gathering considerable honey, which I will begin to extract in a few days. I have increased two by natural swarming, and three by nucleus.

I bought a Carniolan queen (so called, though she resembled a hybrid) last month, and, observing queen-cells in the hive recently, I put a drone-trap (Alley's) in the entrance, as I am much away from home. The swarm came out a week ago, and clustered in an apple-tree a few feet away.

A boy of 15, who had no experience, managed to get them into a hive after much work, and had them to swarm out once or twice. When I got home I gave them some young brood, foundation, etc.; and though puzzled about the drone-trap and queen, I decided they must have a queen or they would not have swarmed. The queen was not in the drone-trap nor in the parent colony either, so I gave the hived swarm a couple of queen-cells to see if they had a queen or not, for I could not find her. They accepted the cells, proving, I suppose, that the Carniolan queen was lost.

One cell hatched the day following the swarm, while I was looking at it, and the young queen was received. They swarmed out again, however, that day; and as it was a big one I hived it also, making two colonies of the first swarm. Every thing seems to be going on right now, after a week, both swarms having young queens, one of them now laying.

A SWARM COMING OUT IN THE RAIN.

I am quite puzzled how my Carniolan queen could have left the hive with the trap in the entrance, and in what way she got lost. I can not understand why the first swarm sent out another on the following day, and a rainy one at that. They had a clean hive, lots of room, young brood and two cells, yet they came out in the rain at 10 o'clock, and hung on the tree until I got home at 5:30 P. M., when I easily hived them.

It seems to me that after-swarms are always liable to issue if you leave a number of cells in

the hive. One of the smallest colonies in which I had been rearing queens swarmed out as soon as the cells began to hatch. I cut the swarm from a tree and let them run into the hive from which they came, and they accepted the situation, and are working contentedly. The first queen can not be depended on to destroy the remaining cells, even when the colony is small. F. M. POTTS.

Media, Del. Co., Pa.

INTERESTING FACTS IN REGARD TO SILVERHULL BUCKWHEAT; THE HONEY NOT DARK BUT LIGHT COLORED.

When I bought those 5-cent packages of European silverhull buckwheat I intended to report whether it turned out well or poorly. Well, for honey the bees work on it the same as on the common. I caught and dissected a bee, and found light-colored honey that she had gathered from it. This made me feel hurrah like; but in a few days after, when passing through a buckwheat-field (I had thought the thing over before, whether any buckwheat honey is dark inside of a bee). I opened one, and found the same light-colored honey. Now, why is it dark inside of the hive after they have finished it?

I counted the seed on one stalk, and found 1292, which is near enough to 1300 to call it that; 1300 fold—how is that? If you sow at the usual rate of one bushel per acre you would have 1300 bushels per acre; but these grains are so small that one-half of this amount would be as thick as one bushel of the large would make it; then if you want the yield to be 1300 or even 1000 per stalk, you would have to sow, I should think, about 4 qts. per acre, and take care of it the same as you do corn, which would be—let's see—1300 divided by 8 equals 162 $\frac{1}{2}$, per acre, which might be done—on paper, at any rate, and could be sold, if sold at Henderson's prices, \$5.00 per bushel, for—my! I won't tell, for some one will buy up all the buckwheat and monopolize the whole thing so I shall be left. Now raise your buckwheat on land, and it will be 20 bushels per acre, at 40 cts. per bushel, as this is called a very good yield for this locality; or if you intend to raise 40 bushels per acre you will have to take as good care of it as Henderson does with his, which few do.

J. L. HYDE.

Pomfret Landing, Conn., Sept. 27, 1886.

Friend H., I think the reason why the honey was light-colored was because the quantity was too small to show the coloring matter in it. Venders of syrups put their samples in thin glass bottles, and by this means they make a very dark syrup appear very light colored—I think it would be possible to get an immense crop on a single acre of ground, if the soil were prepared so that it would be exactly suited for buckwheat, and the proper number of plants, and no more, were on each square foot of ground. We are, however, far from such an attainment as *you* mention. The number of seeds you mention on a stalk must have been an enormous product. I do not think I have ever seen any thing like it. We have about two acres of the European silverhull buckwheat, and we propose to offer it for sale at the same price as the ordinary silverhull; or, if you choose, let it take the place of the ordinary silverhull. Forty cents a bushel is lower than I have ever known buck-

wheat to be sold for in our vicinity. We pay from 75 cts. to \$1.00 a bushel, even where we buy 100 bushels at a time.

REPORTS ENCOURAGING.

A REPORT ENCOURAGING, IN POETRY; FROM 14 COLONIES TO 62, AND 1700 LBS. OF HONEY.

WILL you permit me to give you the present year's report from 14 colonies, two of which were queenless in April, and had to wait till they raised one, neither of which swarmed nor gave any surplus, except a few lbs. from the brood-chamber? Two others had drone-laying queens, which I did not discover for more than a month, from one of which I got no surplus, but had to stimulate till they raised a queen.

I sold my bees this year,
I kept but just a few;
But fourteen stands and little care,
Increased to sixty-two.
The surplus, too, would seem,
When added up, was found,
Though weighed with care, it kicked the beam
At seventeen hundred pound.
They're ready now for winter, too,
For yesterday I found
Each hive weighs now from sixty-two
To sixty-seven pound.
Of stores, an average
Of one and thirty pound,
Exclusive of the hive or cage
That does the bees surround.
And yet I think they may,
While resting on their ears,
Have fifteen hundred pounds to-day,
Laid up for winter stores.
One colony alone
Gave me three hundred pounds,
And you can choose it when you come,
If better can't be found.
And one, with extra queen,
Two hundred eighty pound;
And biggest swarm I've ever seen,
That weighed about ten pound.
I have no more to feed;
Each hive has now its store,
And six pounds more than each will need,
Or ever had before.

HENRY LARGE, per daughter.

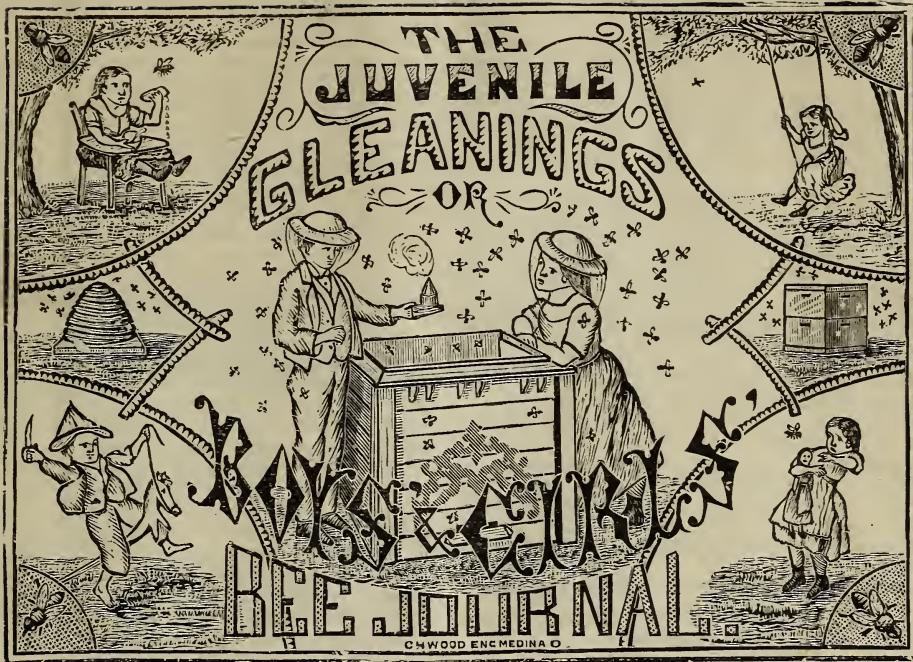
Whigville, Ohio, Sept. 28, 1886.

REPORTS DISCOURAGING.

A BAD YEAR IN TEXAS; SAVAGE CYPRIANS.

TWENTY-ONE years ago I began bee-keeping, and never saw in all this time so disastrous a year as this. I went into winter with 56 colonies of Cyprians in my home yard, and 20 colonies of Italians in my Dresden yard, three miles off. I now have the same number, and not 3 lbs. of honey per colony yet. It has been almost impossible to raise queens, and my queens behave so badly away from home that I am afraid I shall have to quit the Cyprians, in self-defense. Bro. Comhowey stung almost to death, and Bro. Doolittle had to hunt the wood-shed on account of my stinging Cyprians. The April and May drought did the work. In parts of the State, flock-masters (sheep) had to kill the lambs to save the ewes, and some of the flock-masters paid off their shepherds and turned their flocks loose to starve, or be killed by ravenous wolves. In many places in our State, no rains have fallen in from 7 to 14 months. We are not quite that dry here. I have made half a crop of wheat, and one-fourth crop of oats and rye; corn is fair and cotton good, and we may yet get honey.

Dresden, Texas. 21—B. F. CARROLL, 76—76.



He that is faithful in that which is least, is faithful also in much.—LUKE 16:10.

MYSELF AND MY NEIGHBORS.

Blessed are the pure in heart, for they shall see God.—MATT. 5:8.

I DO not believe it is, as a general thing, a good plan to visit our neighbors on Sunday; but there is one kind of Sunday visiting that I have been doing for ten years or more, and I have been so greatly blessed in this kind of Sunday visiting that I like to talk about it. It is visiting the inmates of our county jail. A few days ago I was told that a young man had got into our jail, perhaps to stay many months. I found him in his cell, lying on his bed, sick. I at once thought of the text, "I was sick, and ye visited me; I was in prison, and ye came unto me." As soon as he put out his hand to me and smiled, something flashed across my mind that I had seen him before. He was quite a good-looking young man, dark eyes, and pearly-white teeth that showed plainly when he laughed. Where had I seen him? Years ago he used to come to our Abbyville Sabbath-school, so he told me. He was then but a boy, but now he was a man—sick, and in prison. His temperament was one of those peculiarly happy ones: it is natural for him to be pleased at all times with every thing. He seems to be one of those individuals who see something to be laughed at in almost every feature of human life. Poor Henry! I am afraid, although he did not tell me so directly, that this boiling-over good nature of his—this exuberance of fun, had something to do with his getting into prison. Do you think it strange that a happy disposition can

be dangerous? Well, it is a little strange, my young friends, but I am afraid it is nevertheless true. Henry's pleasing ways, together with his good looks, I am inclined to think, made him a general favorite; and as he grew toward manhood he got to be a favorite with women-kind as well as men, and this brought him to prison. I can not well explain the details before our juvenile readers here, but I may say this: He had just got married to one woman, when, according to the laws of our land, and the laws of God, he should have been married to another woman. I can easily imagine that a disposition like his might lead him into such troubles. I presume likely, he was easily influenced, and may be he was coaxed into something he knew he ought not to do. He was tempted, and gave way to temptation. Had he held fast to the little text at the head of our chapter, and declared in his inmost heart that he would be honest in his heart toward God and his fellow-man, no matter what sacrifice he was called upon to make to keep this purity, he would have been spared this trouble. His natural disposition is to be pleasant and good natured, and he would do almost any thing for the sake of pleasantness and peace—at least, this is my impression of him. But on my second visit, he seemed cast down and discouraged, and in much of a fault-finding frame of mind. He had sent for a doctor, but the doctor did not come, and he was suffering, no doubt, severely. The doctor did not come—nobody came. He even began to complain of his own brother, and of his nearest friends. He felt much inclined

to think that the whole world had turned against him and deserted him, and it made me feel glad to think that I had remembered him; and although I could not take the place of a doctor, he told me of his mistakes and misfortunes; and although he did not then declare he would choose Christ and his righteousness, I felt that his attitude of heart, when I left him, was something near it.

Now, my friends and neighbors, wherever you are and whoever you are, remember that good looks—yes, even a sunny disposition—may lead you into trouble if you are not careful how you use the God-given gift. I am older than many of you, and I have been saddened by these troubles that have come upon a good many; and let me now, in a closing word of these neighborly talks today, bid you beware how you trifle with these holy relations that ought to exist between man and wife. And let me suggest to our younger readers who have not yet thought much about these holy relations, to beware how they trifle with them in any way. When tempted, just breathe the little text, "Blessed are the pure in heart," and it will carry you safely through all such troubles.

A JUVENILE'S EXPERIENCE WITH SWARMING.

ALSO SOME OTHER MATTERS.

BASSWOOD ended with June; and as it was so rainy during its blooming, it did not produce much honey. The rains kept the white clover going, which is still in full bloom, July 18. Sweet clover, or melilot, grows in acres along the creek bottoms, and it seems to thrive best in gravel and sand banks. The bees fairly roared on it.

Our first swarm came out May 12. It clustered on a bush, was hived on the spot, and immediately moved away, a good piece off, but not far from the old hive. Next morning it came out and began to move off, going slowly and near the ground, in a very straight line, for over a mile. On nearing the woods it raised above the tree-tops, and, after going a short distance, entered a hollow tree that had been before occupied by bees. We then cut the tree, brought them back, gave them a frame of unsealed brood, and they went to work all right. After filling their hive and making 30 lbs. of surplus, they cast a heavy swarm July 1, which now has its hive well filled. Now, do you think the swarm of May 12 sent out a second party of scouts, or did the first party, on returning, find it?

May 26, we had a second swarm come off. It was early in the morning, and the thermometer stood but 60° in the shade. While coming out, thousands of bees fell down in front of the hive. They raised up, and some of them tried to go back, but got into another hive near by. The occupants of the latter rushed out, gave battle, and in a few minutes hundreds were slain. The rest of the swarm scattered out badly, and finally clustered, and was hived on a frame of brood. The next three or four days they fought among themselves and many were killed. Then they went to work. After a while they were discovered to have been queenless, and that they had raised a queen. Do

you suppose their queenlessness caused the fighting among themselves?

We had a large first swarm June 23, and it was hived on a frame of brood. It built a considerable amount of comb and honey, and appeared to be all right. The next day it slowly swarmed out, and after a few minutes it began to go into a box-hive swarm. This box hive had got through swarming, and had a young queen at the time, about the age for a wedding-flight. Half an hour before, a young queen was found in front of this hive balled up, and we put her back into the hive. A little later the swarm first mentioned began to move in. Their hive was brought, and as many of the bees as possible were got back by brushing them from off the box hive. But thousands went in, which we never got. Next morning two dead queens were found in front of the new hive, one a virgin and the other apparently a laying queen. The young queen in the box hive must have run out during the excitement the day previous, and was brushed into the new swarm. Both were now queenless. The new hive raised a queen from the frame of brood. A piece of eggs and larvae was placed in the top box of the box hive, with which they raised queens. Now the question is, Why did the bees swarm out and act so? Could it be that the new swarm had a virgin queen, which, while taking her wedding-flight, fell down in front of the box hive, and that her bees, after finding where she was, swarmed out and followed her?

DRONE ASSEMBLIES.

Last year the drones assembled within half a mile of us. The assembly spread over several acres. I could hear their loud roaring, but could not see them. This year I again found where they assembled, but there seemed to be several assemblies. Two were a quarter of a mile apart.

MILKWEED.

There is a good deal of milkweed near us, and the bees work considerably on it. During its blooming I noticed what I thought to be fighting going on among the bees; but on closely examining them I found out that, instead of fighting, some of the bees were pulling away at the wing-like milkweed pollen on the others' feet; and as thousands of these wings were in front of every hive, I suppose they succeeded in getting them torn off. If this is the case, old as well as young bees can be freed from this wing-like pollen.

A FEW QUESTIONS.

Do bees, when they gorge themselves with honey, while being smoked, ever put it back into the cells again? Does melilot bloom every year? Will swarms that have not quite filled the brood-chamber with comb in the honey-season finish it during fall blooming? CHARLIE L. GREENFIELD.

Somerville, Butler Co., O.

In answer to your first question, I think, Charlie, the scouts that went off while the swarm was hanging on the bush found the hive where you had placed it, and led off the swarm next morning. In answer to your second question, I do not think the fighting was caused by queenlessness, but I do think the queenlessness was caused by fighting. I think the suggestion at the close of your third query is the right one.—The facts you give in regard to the drone assemblies are valuable. I think drones do congregate thus, and I have no doubt that they some-

times go several miles to form these assemblies.—Bees do put the honey back in the hive after they have gorged themselves on account of smoking; but every time they put it back, there is less of it; therefore every time you smoke a colony of hybrids so as to induce them to uncum their sealed honey, you cause them to lose a certain quantity of their winter stores.—Melilot blooms every year, so far as I know; in fact, I never heard of a plant that was not covered with bloom.—Bees will often finish out unfinished combs during fall blooming.



Every boy or girl, under 15 years of age, who writes a letter for this department, containing some valuable fact, not generally known on bees or other matters, will receive one of our good, excellent five cent Sunday-school books. Many of these books contain the same matter that you find in Sunday-school books costing from \$1.00 to \$1.50. If you have had one or more books, give us the names that we may not send the same twice. We have now in stock six different books, as follows: viz.: Sheer Off, The Giant-Killer, The Roby Family, Rescued from Egypt, and Ten Nights in a Bar-Room. We have also Our Homes, Part I, and Our Homes, Part II. Books of above titles, you may have a photograph of our old home apiary taken three or four years ago. In it is a picture of myself, Blue Eyes, and Caddy, and a glimpse of Ernest. We have also some pretty little colored pictures of birds, fruits, flowers, etc., suitable for framing. You can have your choice of any one of the above pictures or books for every letter that gives us some valuable piece of information.

"A chiel's amang ye takin' notes;
An' faith, he'll prent it."

A TALK TO THE LITTLE FOLKS ON PREPARING BEES FOR WINTER.

HOW are those hives getting along, in the back yard? Have they enough stores for winter? If so, are they prepared for the cold with chaff packing?

Very likely, many of you have prepared your bees for the cold which is soon to follow; but I fear that *all* of you have not been thus careful, and that you have found it convenient to put it off a little longer. It is to this class of juvenile "putters off" that I am now about to talk. In the first place, I am going to ask, What did you put it off for? One little boy clear over in Wisconsin yells out, "Cause we don't know how to fix 'em for winter." Another little ten-year-old red-head, with great big freckles on his nose, screams out way down in Texas. "We hain't got no sugar, an' dad says he can't afford to buy none, 'cause bees didn't pay right smart this year, it was so dry." A little girl in the northern part of Maine cries out, "Please, sir, and will you tell us how to winter bees?"

Well, my dear little folks, I do not believe I can; but I will tell you how Sammy and his father in the State of Ohio are preparing

their bees. The circumstances run something in this wise:

HOW SAM'S FATHER PREPARED HIS BEES FOR WINTER.

"Say, Sam, what's yer dad doin' with them bees of his?" said Sam's playmate, who lived over across the way.

"Doing with them!" rejoined his companion; "why, he's fixing them for winter."

"What, as early as this, and only — le' me see—the 10th of October? By cracky! I hain't done nuthin' with mine yet."

"You should say, 'I haven't done nothing,'" said Sam, with an air of superiority, evidently shocked at his playmate's grammar, and not knowing that there was still a "mote" in his own eye.

"Oh! nonsense, Sam: you're always taunting me about my grammar and slang. Come! if yer dad is fixing them bees up fer winter, I want to learn how to fix mine." So saying, the boys clambered over the fence into the yard where Sam's father was at work, though Sam stood at a safe distance.

"What yer standing way off fer? These bees won't hurt you," said Jimmy, for that was the name of Sam's playmate.

"No," said his father, when Jimmy explained that he wanted to learn how to winter bees. "Besides," his father continued, addressing his son, "I should like to have you learn too."

Sam's father, after closing the hive upon which he was at work, opened another. "This colony," said he, "as they have been breeding, needs considerable feeding. They have emptied the bread-pan of feed which I had given them, all in one night." So saying, he lifted off the empty pan. With the smoker in his right hand he gave a few light puffs of smoke, while he slowly pulled off the enameled cloth with his left hand. He next lifted out one of the outside frames.

"Pretty light, and not much honey there," said Sam's father.

The next frame contained still less: the frames in the center of the hive had no honey, but a little sealed brood.

"Sam," said his father, "will you run into the house, and fill this coffee-pot with the sugar syrup I made last evening?"

Sam obeyed, and started for the house.

"Now, don't spill any of it, nor daub the coffee-pot, as you did the other day, when the bees got to robbing so badly," called his father, as Sam neared the house. The bees had got to robbing on that day, and Sam, as a consequence of his carelessness, was stung two or three times; hence his fear on approaching the apiary, for which his playmate taunted him.

Sam quickly returned, and, more than all, the coffee-pot was nice and clean.

"Well done," said his father; "you didn't daub this time."

"N-n-no," said Sam, hesitating; "why, — why, ma poured it for me." His father smiled a little.

"What harm does daubin' the coffee-pot with syrup do?" said Jimmy.

"It is almost sure to start robbing," returned Sam's father; "and wherever the coffee-pot sits, the bees will lick up the syrup,

The result is, we have to quit work for the time being."

"Oh!" said Jimmy, "that makes 'em rob and sting. I see. Now I want to ask some more things. How do you feed that stuff to 'em?"

"You will see presently," rejoined Sam's father. So saying, he spaced back the frames and covered them with an enameled cloth, near the center of which the bees had gnawed a hole. The bread-pan was placed alongside of it, and was then filled from the coffee-pot. This done, a cheese-cloth was spread over.

"What's that cloth fer?" said Jimmy.

"That is to prevent the bees from being drowned while taking up the feed," replied Sam's father.

"O-o-oh," said Jimmy. "How much'll you feed that hive—I mean, how can yer tell when they've got 'nuff?'"

"I shall feed in this way about 20 lbs. of syrup; or, in other words, until the bees have five or six frames of stores nicely capped over," returned Sam's father.

"But, pa, you won't have to feed all that way," said Sam, who had just now begun to take an interest.

"Oh, no!" replied his father; "a few of my colonies I shall not feed at all, as they have a sufficient amount of natural stores, but a large majority will require a considerable amount of feeding."

"How do you make the syrup?" said Jimmy.

"To 20 lbs. of sugar, add a gallon of boiling water from a tea-kettle."

"That's easy," said Jimmy. "By cracky! if them bees o' yours need feedin', mine do. I must feed 'em to-night." And off he started for home.

"But you won't have time," called out Sam.

"Well, I'll feed 'em to-morrow night, and get the syrup ready to-night," replied Jimmy.

In the next juvenile I will tell you how Jimmy succeeded, or, rather, how he didn't succeed.

ERNEST.

CHILDREN HANDLING MATCHES.

We give place to the following in this department, hoping that our young friends may read and profit from the results of careless handling of matches.

I had my barn burned, and about 25 tons of nice hay. I had just started my team to hauling the hay to market, and had 4 loads out of the barn. It was a nice new barn, with which I was very well pleased, and every one admired it. The loss will not exceed \$600, but it is my whole year's crop, besides the barn, \$300.

The way the barn was set on fire is this: We have two little children, and they were playing in the barn, and the little boy found a match somewhere, and the little girl took it and scratched it on the manger. The match broke and flew into the dry hay, and all was ablaze in a twinkling. She tried to carry the fire out, but the wind blew it all back. She then screamed for mamma, but mamma could do nothing then—it was too late. I was away on business. It had not been insured when I left.

Ft. Wayne, Ind.

ROLAND HOLMES,

A KIND LETTER FROM A "LITTLE STRANGER."

Mr. A. I. Root:—I am a little stranger, but I don't wish to be one any longer. I would have written before now, but I had nothing to tell you that I thought would be of any interest. Papa is a bee-man. There are but few bee-men in our community. Papa has more bees than any one else I know of in our vicinity.

As every little fellow who writes to you has so much to say about bees, I have concluded to talk on some other subject. I am a little girl, and I love my Sunday-school. I go to Sunday-school regularly, and to prayer-meeting in the evening. I want to so live and act while I am young, that, when I grow old, I may be a useful Christian. I have often said I wished I were as good as you. I am a young member of the church. I intended to read the Bible through this year, but I am afraid I can not do it.

BELLE HALL.

Sparta, Miss.

ROBBING BUMBLE-BEES.

My brother and I were plowing, and we found lots of bumble-bees, which we kill by taking a little straw, and burning it, and then put it on them and stir them up. One day a little one was hidden in the grass, and he bit me in the foot. When I stepped on him he made me jump.

E. YODER, age 9.

Morton, Ill.

It is just "piles of fun" to fight bumble-bees. I know, little friend, and I used to enjoy it. I presume it is the excitement connected with it which makes it such a favorite pastime among boys. It is just "piles of fun" to tease cats and dogs as well as the poor bumble-bees. But there is a better and less cruel, though, I must acknowledge, less exciting way, to handle bumble-bees. See department of Our Own Apiary, last issue, page 791. I want the boys—yes, and girls too—to report on their success in handling bumble-bees by the plan there prescribed. That is, I want you to show what skill can do. See if you can't astonish your school-friends. Every boy or girl who succeeds by this plan, and promises to fight or tease no more bumble-bees, I will send any thing that may be chosen from the ten-cent counter.

ERNEST.

HOW A JUVENILE RAISES STRAWBERRIES.

I took a barrel and sawed it in two in the middle. It wants a barrel with two heads. Commence six inches from the bottom to bore holes round the barrel. I bored 17 holes in the first row; 7 inches above that, bore 20 holes. Now put in dirt up to the first holes, then take the strawberry-plants and put the roots in the holes. Take pains to put them in well. Now fill up to the next tier of holes, and put in the plants. Now fill up with dirt, and set the top with plants. It will be best to make one or two holes in the bottom, so that you can not drown them. We have one in our front yard, and it has been a beauty. In the first place, it was full of blossoms, and then full of large strawberries. I should think that two barrels would give one family all the berries they would want. My plants looked nice. Folks stopped and looked at them almost every day. I have orders to make the same. They furnish barrels, and I furnish plants and charge \$1.50.

G. S. BROWN.

Salisbury, Vt.

DIDN'T DO ANY THING BUT SWARM.

I am a little boy. We live 60 miles northeast of Peterborough. My pa keeps bees. He commenced with one colony 4 years ago last spring. This fall we had 20. Last year was a very bad one, and they didn't do any thing but swarm. They filled their hives from the maple in spring, but didn't do any thing with basswood or raspberries. They made some from buckwheat. They did well until last year.

ELGIE E. IVES.

Cardiff, Cau.

ALSIKE, AND HOW THE BEES WORK ON IT; TAKING DOWN SWARMS.

Papa got an Italian queen one year ago last June, and now he has five colonies from natural swarming. He sowed that peck of alsike clover seed last March that he got of you. The bees were just swarming on it when it was in full bloom. I was afraid to walk through it. He got a fine lot of seed from it too. Papa says that the Italian bee is more industrious than the black bee. Papa values his Italian bees very highly. One swarm went off; and as they were Italians, brother Joe and a neighbor's boy followed them. The bees alighted on a limb 50 feet high. Brother Joe climbed up and tied a rope around the limb, and then cut it off and lowered it to the ground. Then they left that limb and went to another tree. I think they got them down again, but I am not sure; any way, they had to take them three times before they got them to stay down; but they got them hived, and the bees are doing well.

CLARA STREBY.

Paw Paw, W. Va., Sept. 16, 1886.

HOW A SWARM ABSCONDED, AND WAS AT LAST RECOVERED.

I am a little boy just nine years old. My papa is a harness-maker by trade. He started in the bee-business two years ago. He commenced with one swarm and increased to 23.

I will tell you about a swarm of bees that went off last summer. When they were swarming, mamma happened to be alone. She ran after them half a mile or more, then she lost sight of them. The swarm was gone two days, then a gentleman of the same town stopped at the shop and told my pa there was a swarm of bees on a small apple-tree in his orchard, and said, "If you go after them you can have them." So pa took his swarming-box on his shoulder, and went where the swarm of bees was. It was about two miles from home, so he shook the bees in his swarming-box, and covered them up with a wet cloth; then he picked them up and put them on his shoulder, and carried them home and put them in a Simplicity hive; and when he examined the bees he found they were his own, that had left. How he could tell that they were his bees was because there were no drones with them. My pa cuts all the drone-cells out in summer.

WARREN J. SEITZ.

Clarence, N. Y.

DO BEES TALK?

The following incident was related to me by my neighbor: While examining his bees last winter he found one colony in a starving condition. There was a small cluster of bees in the center of the hive, yet living, but the queen was in one corner of the hive, as far away from the cluster as she could get without leaving the hive. On seeing their condition he gave them sugar, which made them wild with excitement. One bee in particular drew his attention. As soon as it tasted the sugar it ran with

great speed to the queen, and, as my neighbor expressed it, bumped its head against the queen's head and immediately started back to the sugar. The queen followed till she reached the sugar, when she gorged herself to such an extent that she died next morning.

5—G. L. JANNEY, 22-38.

New Corner, Ind., Sept. 6, 1886.

The foregoing was not written by a juvenile hand, but I believe friend J. will consider it no disgrace to see his communication among the writings of the little folks, because it bears upon a point we were discussing. We are much obliged for the fact. Is it possible that the little bee, recognizing the starving condition of the colony, knew that, as soon as syrup should be given them, the queen must be fed? And what a queer way of telling her! But she understood it, and it was the bee's way of talking to the queen. I have never yet seen bees signal quite in this way to the queen, or, in fact, to each other.

ERNEST.

THE UPS AND DOWNS OF A BOY BEE-KEEPER; HOW HE SUCCEEDS IN SPITE OF REVERSES AT FIRST.

My eldest brother and sister having taken the bee-fever, I took it also. I bought two colonies and an empty hive for four dollars. One of the colonies was in a tree, and the other in a box hive. One day I got my sister to help me, and we went over there, cut the tree, transferred the bees to a frame hive, and got about 15 lbs. of honey, which brought me 10 cts. per lb. I brought both hives home in the fall, and put them where I wanted my apiary.

The next Sunday, Walter's bees discovered the new comers, and turned in and ate up all the honey they had. The Sunday after that, they ran away. I transferred my box hive then; and the Sunday after, they ran away. I was flat in the bee-business then, but still the fever hadn't cooled much. I bought a box hive from Walter for two dollars, and another bee-tree. I cut my tree early in the spring; it had no honey. I transferred into a frame hive, and brought them home, and I also transferred my box hive I got from Walter.

It was a poor spring, and bees ate up all they had, and it looked as if they were going to starve in spite of all I could do. Two or three times I went out there and found them so weak they could hardly fan; but I poured some honey and water on them, and that brought them all right. They managed to live and build up.

Then I thought I must have clipped queens. So one Saturday one of my neighbor's boys was down to see me. I took him out to see my bees, and showed him how I could clip a queen; but she floundered so I couldn't manage her. He then agreed to hold her while I did the clipping. He held her as though he were holding a chicken, and the next morning I went around to look at them and found her on the bottom-board, dead. Well, the bees raised them another queen, and are doing finely. This summer I bought a swarm on a limb. I brought them home in my coat-sleeve. They also are doing well. I have taken about 30 lbs. of honey, extracted. Don't you think this is pretty good for a boy of 14?

F. O. SOMERFORD.

Navasota, Texas.

Yes, I think you have done well, considering the "bad luck" you had at first. If you push on in this way you deserve to succeed and will succeed.

ERNEST.

TOBACCO COLUMN.

HENRY POWELL has quit the use of tobacco, and requests you to send him a smoker. You can publish his name in GLEANINGS, and I will see that you get your pay for the smoker if he uses tobacco again.

Mineral Point, Wis. REESE POWELL.

I will promise to quit using tobacco in any form. Please send me a smoker. If I ever use it again, in any shape, the man I am at work for will report and I will pay for the smoker, as he is a very temperate man.

HARRY CARR.

Goodrich, Mich., Aug. 10, 1886.

I have in my employ a young man 19 years old who has been a constant tobacco-chewer for three years. Under my influence he has been persuaded to stop. It is now nearly a month since, and the hardest of it is over. I told him that, if he persevered, and would promise never to use it again, you would send him a smoker. If he ever does use it I will vouch for the price of the smoker. His name is John Goodhull.

C. S. ADAMS.

Williamson, N. Y., Aug. 23, 1886.

BREAKS HIS PLEDGE, BUT HONORABLY PAYS
FOR THE SMOKER.

I thought I would write to let you know that I didn't quit chewing tobacco, and I inclose you 70 cts. worth of stamps for that smoker that B. R. Paxson sent for.

ELMER DEVENS.

Good Hope, O., Aug. 27, 1886.

We are very sorry to see that you have gone back to tobacco, but we thank you for the honorable act of paying up. We hope you may yet see the error, and pledge yourself never to go back to tobacco again.

THE GRATITUDE AN OLD TOBACCO-USER FEELS
TOWARD THIS DEPARTMENT.

I received a smoker from you, with the understanding that I was to refrain from the use of tobacco—a habit which I indulged in for ten years; but I have now decidedly abstained from it, and hope that I shall never feel a desire for it again. I am well aware that my thanks are due to you, and would express them here a thousand times. I am convinced, that if every real Christian would do as much as you to abolish such sinful filthiness, in a few years the weed would be raised no more. I therefore thought to give a mite, and ask you to please send me, for the inclosed, a Dose of Truth. I should like to state to you yet, that I am very well pleased with the smoker; it can't be beat.

New Haven, Mo. TRAUGOTT HERZOG.

KIND WORDS FROM OUR CUSTOMERS.

PROMPTLY TO HAND.

The sections came promptly to hand and are very nice, and I am very glad that you did not have the dovetailed ones to send, as these are certainly very much preferable.

ALBERT WILLIAMS.

Sharon, Pa.

ONE TRIP TO THE EXPRESS OFFICE.

The smokers came through all right, both lots of them. They are nice, and I think that the foundation is very nice. It pleases me to have orders filled right off, so that one trip to the express office will do.

J. C. MCGREW.

Milnersville, Ohio.

THE BEE-TENT INDISPENSABLE.

Send me one of your latest improved bee-tents. I have used them for two years, and find them indispensable.

W. D. WRIGHT.

Knowersville, N. Y.

TERRY'S POTATO CULTURE.

Please find inclosed 45 cents, for which send me Terry's last book. I have his book on potatoes. I am raising some according to his instructions, and it works finely, though we are having a drought. I am pleased with your talks on the "New Agriculture" and gardening.

W. J. COX.

Viroqua, Wis.

OUR WHEELBARROW.

I received the goods you shipped me last month, and have examined the packages, and find them to be quite correct and very satisfactory. The wheelbarrow is nicer in appearance than any I ever saw, and it will doubtless prove quite serviceable. Its lightness is a great advantage to those who have not a great reserve of physical strength.

The broad-frames and other things in flat are as accurate in fit as could be desired, and the 1-lb. sections are the best I have ever seen.

Media, Del. Co., Pa.

CAN NOT DO WITHOUT IT.

As I am a novice in bee-keeping, I have thought I could not afford to subscribe for more than one bee-paper, and have been and am still taking the A. B. J., and could not do without it, and so, friend Root (as all bee-keepers should be friends), I have come to the same conclusion as to GLEANINGS—I can not do without it. I have only a few colonies—20 in number—at this time; 10 last spring, and 5 the spring before, and I am succeeding so far (thanks to bee-publications and good friends, and especially my best friend, Dr. G. L. Tinker), beyond my greatest expectations. I have taken this year 700 lbs. of comb honey from 10, spring count, and 2 of them were weak.

W. S. TAGGART.

Barton, Ohio.

"IN ALL THY WAYS ACKNOWLEDGE HIM."

I have been lent some numbers of GLEANINGS, and desire to express my gratitude to God for the Christian tone and for the witness to the truth it contains. May the good Lord bless you in your testimony to him, and may you ever continue a faithful witness for the truth as it is in Jesus. I fail to see that, in business transactions, all allusions to the truth should be eliminated; for does not the word of God say, "In all thy ways acknowledge him"? and in these dark, dark days it is especially needful that our light should "so shine before men that they may see our good works and glorify our Father which is in heaven." I have only lately come here from England with my wife and four sons, and have settled in this country, and I am indeed thankful to know that there is at least one public paper whose editor is not ashamed to confess Christ. None of my sons or myself drink intoxicants of any kind, nor do we use tobacco in any form.

W. BEERS.

Fayetteville, Wash. Co., Ark., June 1, 1886.

NOT A MISTAKE OF OUR SHIPPING-CLERK.

I appear before you this morning with hat in hand. Your faithful packing man was correct about the missing nails, hence I beg pardon of all concerned. I found them snugly hidden in the sections where I did not look, as I took the sections out only as I put them in the frames; and as the rest of the nails were all together in another box, I did not suppose they would be with the separators. I do not count the small pieces, only as I put them together, as I believe you to be strictly reliable and correct in your dealings. I will be more particular hereafter. At first I did not like the tin covers; but after putting together and trying them I think them splendid. I wish I had more of them.

Cifax, Bedford Co., Va. E. H. HATCHER.

[Many thanks, friend, for your frank acknowledgment that you were mistaken, and not our shipping clerk. We hope our friends, on reading this, will take note. When they receive shipments of goods from us, and, upon unpacking, think they have found something missing, will they kindly continue the search, unpack every thing, and, if the articles are still missing, write us, and we will set the matter right?]

OUR HOMES.

The cup which my Father hath given me, shall I not drink it?—JOHN 18:11.

EVERY human being, at some time in his life, is compelled to recognize that there is a great unknown world, somewhere behind the scenes, as it were—a world of which we know comparatively nothing. Some unknown power presides in this world, not only calling into existence plant and animal life, but holding in his hand a system of worlds like ours, and wielding them for some purpose of his own. This unknown power has called *us* into existence, for, as it would seem, some all-wise purpose of his own. I believe that most earnest, candid thinkers, also believe that, at death, we are ushered into the presence of this great Being; but it is indeed true, that no one has yet come back from the confines of the grave to tell us what is beyond. We may sometimes catch glimpses of it from the testimony of loved ones when on the borders of the unknown land. But all we get is indeed only a glimpse. I presume many of my readers have often expressed in their hearts a wish that God would speak to us and tell us plainly what are his wishes in certain matters. “Oh that I knew exactly what God the Father would have me do in this emergency!” is a prayer that has often welled up from my heart, and I presume from the hearts of others. I have been told that a young man once wrote a letter to Darwin, asking him if he believed that God had ever made any revelation to the children of men; and, if I remember correctly, Darwin’s reply was to the effect that he could not discover that any such revelation had ever been made. I presume likely Darwin meant that there was nothing in the realm of science or natural history to indicate that God had thought fit to break down the barrier that separates us from this unknown world, and stand face to face with the objects of his own creation. Whether or not Darwin meant to ignore the testimony of the Holy Scriptures, I do not know, and I do not propose to discuss the point just here.

Well, now, my friends, *should* God see fit in this present nineteenth century to send a message or a messenger to earth, how would he do it? And if a messenger were sent, how would he make his appearance, and what sort of appearance would he present? Queen Victoria often sends messages to the President of the United States, and may be she sometimes sends messengers. If so, I suppose they come with much pomp and ceremony. They are introduced by dignitaries, and accompanied, probably, by evidences of wealth, refinement, and culture. I believe, however, that the world is not so much given to gorgeous display now as it used to be hundreds of years ago. Kings and queens are human—exceedingly human, sometimes. They are weak and faulty and erring; they make mistakes; they show forth human passions, likes and dislikes. If God should send a message to this world, he would make no mistake. His messenger

would probably be without fault or blemish. The question might come up, then, To whom would he probably appear? We here in America would think it proper and fitting that he should first pay his attention to the President, or to the chief rulers of our land. Perhaps, however, some would think it fitting to come first before God’s ministering servants, the clergy, and make known to them his wishes in regard to his people. If so, what ministers or what denomination would be first honored by his great presence? Perhaps I am handling this subject awkwardly. I should not be a bit surprised if you thought so, for it is a subject too great for me. It is a subject too great for anybody. The mere attempt makes me feel my utter nothingness. But I do feel as if I had a right, however, to feel satisfied of this: That he would come or send his messenger in such a way as to do the most good to the greatest number. How would he manage to obtain a hearing in this busy world of ours? He might arrest the attention of the people by a series of earthquakes, or mighty thunderings. But after having arrested their attention, would he do most good in that way? If we are going to win our children to righteousness we must come to them with gentle words of love, or we shall be in danger of driving them away and utterly failing in what we wish to do. A father might appall and terrify a child by exhibitions of his enormous strength; but some of us know by experience that “enormous strength” often amounts to but little with a child. Some quite small children will assert their rights, and give exhibitions of a free will. Their disposition is to do as they please, in spite of all the strength that can be brought forward. Many a parent who is not a Christian has perhaps decided in his own heart that it is not by might nor by power, but by a gentle and loving spirit, that he brings his child up in the ways of wisdom and paths of truth.

In the above I have been speaking as a people might speak who have had no knowledge nor conception of the Bible; or, if you choose, a people who *ignore* the Bible. But you will notice that the deduction seems to be that, even if God himself should send a messenger to us, very likely the wisest course would be to adopt very much the plan that we are told he *did* follow, in the New Testament. The one whom he sent, and whom he saw fit to clothe with power, came into the world as you and I did. He lived the life of a little child; he grew up as a tender plant; we are nowhere told that there was any thing particularly comely in his appearance; nobody praised his beauty, so far as I know. As he grew older he was despised and rejected of men. His own brothers, in fact, disliked him. Finally he was a man of sorrows and acquainted with grief. One of the infidel writers says he went through the world a disappointed man, succeeding in gathering only a small handful of humble followers. He did not go near kings nor princes; he made no display, except the miracles which he performed to prove to mankind that he was sent by God the Father. These miracles themselves, however, were

of a humble kind. Although the power was vested in him of producing earthquakes, beyond any thing the world has ever yet seen, he never used that power. Only once or twice did he command the elements, and even then it was simply to say to the winds and waves, "Peace be still." He might have chosen an occasion for this great wonder, when kings and princes, and multitudes of learned men were present. He did not see fit, however, to do so, but chose the night time, when he was alone in the middle of the sea, with only a few humble fishermen near him. Instead of doing grand and startling things, he confined his works mostly to the healing of the sick. It seemed, however, to be God's purpose to give a succession of miracles, each one a little more wonderful and startling than those that preceded it. It has sometimes seemed to me as if the class of unbelievers who followed him around had been saying, "Oh, there is not any thing so wonderful about this, after all. The storm may have been ready to stop at just about the time he spoke, and these sick people may have been already mending. Who knows but that they would have got well themselves?" If such were the case, however, God's plan seemed to meet all such skepticism, for pretty soon he raised to life one who was dead. It was only a widow's son, however, and only a comparatively small circle of mourners were present, for it was near a small town or hamlet. He might have brought to life the son of a king or queen; but God, in his infinite wisdom, seemed to feel that, if he came to the lowly and humble, the great could easily stoop down and meet him, or avail themselves of his teachings, if they chose. Had it been the other way, and his work been directed to the great and mighty, how ready the humbler class would have been to say that it was all very well, but that it was not for *them!*

Well, now, if God had planned a succession of miracles, what one should be the great masterpiece or culminating wonder of that whole life? We, in our feeble human knowledge, might have thought there would be wisdom displayed in stepping, from such a lowly and humble life, up and up toward grander things, until the finishing touch should be something that would rend the very heavens, and unveil to mortal gaze the dazzling splendor of the gates to the eternal city. I mean to suggest, that men of the world might have planned it something that way. Please excuse me if I seem to be irreverent. I mean simply to contrast human wisdom with God's wisdom. After that wonderful miracle of raising the widow's son, it is true, a greater one followed in the same line. Lazarus, after having lain four days in the grave, until even his sister feared that his body might not be fit to look upon, or be near, was bidden to come forth; and we afterward read of Lazarus being present at a dinner where the Savior was. After this, can we wonder that his disciples looked expectant toward some greater and grander display of his power? So certain were they that it was going to happen ere long, that they quarreled among themselves as to which one should be entitled to the highest

rank when these things should come to pass. It is true, this quiet humble messenger of God told them repeatedly they were mistaken, and that no such grand things were going to happen; but, human-like, they would have it that he should be made king. Who else in this wide earth was in any respect qualified to be such a king as he might be? He was the one whom God intended to be king, without question, and they reasoned much as we would, that the world would soon see it, and they would make him their king any way. The world did catch a glimpse of his kingly attributes, and at one time they followed him, throwing down branches of trees, and spreading their garments in the way, and shouting, "Blessed is he that cometh in the name of the Lord! Hosanna in the highest!" But it did not last long. Jesus was not stirred nor puffed up by these demonstrations. He felt more like weeping; and, in fact, he had wept over the folly and wickedness of humanity. God revealed to him that he was marching to a cruel death, and that this death was to be the final triumph of his ministry here on earth. None of them could comprehend the wisdom and loving kindness of this, God's plan for the redemption of the human family. Jesus seemed to be alone, and deserted by all the world. His most faithful and earnest followers were not only making a sad blunder, but they rejected the very idea that he should die, the victim of the hatred of evil men. When he tried to tell Peter that it was best that he should thus die, Peter vehemently declared that it should not be so. I can imagine how sad and disappointed Jesus felt to see that his most earnest and vehement friend and follower utterly rejected God's plan. When he again and again tried to tell this little band of followers of the beauty of such a life of sacrifice, they either were utterly unable to comprehend it, or they entirely rejected it. When they were disputing as to who should be greatest, he asked them if they were able to drink of the cup that he should drink of. They promptly replied, with awful and almost brazen confidence, that they were able; and one of these two was the "beloved disciple." When the time came, however, they were appalled at the thought of this terrible sacrifice, and all, or nearly all, fled in dismay. It was beyond the comprehension of humanity. It has sometimes seemed to me, that, if Jesus could have had the sympathy and consolation of one single friend and follower at this time, his task might have been by far an easier one. At the mount of transfiguration he was cheered and encouraged by the presence of Moses and Elijah, and we are told that they conversed with him in regard to this very matter. Who knows but that they were strengthening him for this very ordeal? He was not only human in suffering, as we are, but he was tempted by Satan as we are. Satan tempted him in the wilderness forty days, but Jesus came out triumphant. He bade Satan get behind him. It seems, however, that Satan still hung around, and probably all through Christ's life on earth, or until very nearly the close of it. It was probably

Satan who whispered to him that it was a piece of folly, and quite unnecessary, when he prayed in the garden that the cup might pass from him; but when the prayer was not granted, Jesus was able to say, " Nevertheless, not my will, but thine, be done." After this struggle with temptation, I can imagine that Satan left him; but I am inclined to think, however, that he came back during these last agonies. Perhaps the fiery fiend was near with his taunting suggestions when Jesus breathed those last words, " My God, my God, why hast thou forsaken me ? "

Now, I have reason to think, dear friends, that it is quite likely Satan will try to tempt and torment us, even up to our very last moments. If the Savior was called upon to battle with him, why shouldn't we? This is true, however, and may God have the praise for it, that the same grace that carried Jesus through will carry us through. For a long time it has seemed beyond my comprehension why God's plan must include this terrible and agonizing torture. Why should God plan for his only son a death by human hands that strikes us with horror? Again I feel my weakness, and again I feel how utterly unfit I am to try to grapple with this great subject; and yet, as I study these closing words of our Savior, a grandeur and glory begin to unfold themselves to my comprehension, such as I have never seen before. God wants us to be strong and brave; therefore, in giving us a model life to pattern ours by, it must necessarily include a life of courage and bravery and self-sacrifice amid awful suffering. We are called upon to endure hardship in suffering here in this world. Yes, for some reason that we can not understand or comprehend, it seems to be necessary for us to learn to endure suffering; and the question that confronts us is, Shall we shirk it and evade responsibilities and trials, or shall we face them and learn to take them with Christian-like fortitude and courage?

We are finally getting close to our text, dear friends. Peter was going to deliver the Master by fighting. He was acting out just what he said some time before, that these things should not be; and even if all the rest of the disciples had fled, frightened by the mob and soldiers, he was going to give them to understand that he was ready to fight, even if he had to fight alone. He could not get the idea out of his head but that the Master needed fighters. Jesus seemed inclined to let them go on, without any effort whatever to escape the impending violence—"As a sheep before her shearers is dumb." Peter deemed it a good deal easier to fight than to be trodden upon. He was one of those people who vehemently declare they are not going to be run over and trampled in the mud by any man. After all Christ's teachings, after all his examples, Peter had no glimpse of a Christ-like spirit. Jesus said, "The cup which my Father hath given me, shall I not drink it?" Peter said, by his actions, "No, we are not going to submit to any thing of that sort." Poor Peter! what a breaking-down and humbling of that haughty spirit there came a few hours later!

Peter's fault, however, was more of the head than of the heart. He had no deliberate purpose of doing wrong. There was no cup for him to drink which he was rejecting. He seemed unconscious of the fact that there was a good deal of wicked pride in his heart, and that he needed some great lessons in humility. The cup was a hard one for the Savior to drink, just as many of our cups are hard for us. For a time he felt as if he could not go through with it. But the better spirit at length triumphed; and after the triumph he speaks of it as his glory. "Now is the Son of man glorified." And the glory that he alludes to is the ignominious death on the cross.

I presume, dear friends, that you and I will be called upon to pass through terrible trials—trials that will make our flesh creep, and perhaps our beating hearts stand still. Then comes the awful question before us, "The cup which my Father hath given me, shall I not drink it?" Some of us will perhaps say, "I can not, I can not." And perhaps we shall turn away and give it up. What then? Why, if we have let inclination rule instead of a sense of duty, we have started in the Devil's service, and the end will be the bottomless pit. I do not know what these trials will be, nor in what shape they may come; but I believe they come to all of us. May be the appetite for strong drink comes over you as it never came over you before. Perhaps you lie awake, tossing in torture because of Satan's promptings and suggestions. It may be terribly hard to bear; but, my friend, you will simply be tried as the Master was tried. "The cup which my Father hath given me, shall I not drink it?"

My recent visit to the jail, mentioned in Our Neighbors, suggests another form of temptation. Suppose you know it to be your duty, before God and before man, to take one of the opposite sex to be your companion for life; but over and against this duty, suppose circumstances are such that you love another, and that the way is open before you to do as you choose. I know it is a terrible thing to be united for life to some one you do not love. Satan whispers to you, that you had better die first than make such a sacrifice. The recording angel suggests that *duty* is the path of peace, even though it should include *death* in reality. The one course may seem to you to be a whole life of self-sacrifice; but through this life of self-sacrifice, Christ the Savior may be by your side. The other course seems to offer you the greatest happiness you can conceive of, for personal inclination can appeal tremendously hard, as I happen to know. But there can be no Christ with it—no Bible, no religion, no God. Well, it is a sad fact, my friend, that there are thousands who do choose to follow inclination, even though it cut off God and heaven, and the peace that the Savior can give. Now, when you come to such a crisis as this, just read over this text—"The cup which my Father hath given me, shall I not drink it?" Go down on your knees, ask God to help you do your duty, and go forward. Take up the cross, and follow him; and let me whisper to you,

by way of encouragement, that by and by that cross will be found easy to bear. Perhaps some of you may think, that, because I am getting old and well along in years, I am forgetting how hard it is to give up some earthly idol. No, I am not forgetting, but I am glad of an opportunity to tell you that these things are, many of them, but fancies—fancies pictured by Satan, most probably. You may imagine you really *love* some one of the opposite sex who is untrue, and even impure. My friend, believe me when I tell you that it is only a foolish, silly notion. The truest, holiest, purest, and happiest love that ever blest man or woman, was a love governed by reason and common sense, and sanctified by the spirit of Christ. This false fabric, built up by the Devil himself, can be brushed away almost as easily as you could brush down cobwebs. All that is needed is the spirit that the Savior breathed in our little text—"The cup which my Father hath given me, shall I not drink it?"

You may be in anger; you may feel for days and even weeks as if revenge would be the sweetest morsel that the world has to offer; but duty says, "Never mind; let it go." And Jesus says, "Do good to those who hate you." An opportunity comes for doing good to this person who has persecuted you. You stand undecided. The old struggle comes up, and you wonder whether it is right for you to do any thing so revolting to your feelings and inclination. Remember how the Savior bade Peter put up his sword, and stood silent and still while they put upon him the crown of thorns and the purple robe. "The cup which my Father hath given me, shall I not drink it?" None present could see or realize that his glory was approaching, save God the Father. And, my dear friend, the glory of your life is waiting for you when you fight these battles and go through these struggles, providing the prayer of your heart is, "The cup which my Father hath given me, shall I not drink it?"

Perhaps you feel glad, or have felt glad, to labor for Christ in foreign lands. Your education has prepared you for it. You step forth in the vigor of manhood, fresh from college. Opportunites are offered you for a brilliant career in business or among the professions. The companionship of cultured and intelligent people is dear to you. The luxuries of wealth are very dazzling and enticing. Your taste for the things you have prepared yourself for through the labor of years may seem, for the time being, to have gone; and again comes the question, "Shall we follow taste and inclination, or shall we follow duty?" It seems hard to bid adieu to loved ones, to forego the pleasures that seem to fall naturally to the lot of your friends and associates. What would Jesus say, under the circumstances, were he in your place? "The cup which my Father hath given me, shall I not drink it?" Your life, perhaps, may bid fair to be a life of toil and privation, or of hardship; perhaps you lack sympathy, and may be you do not even receive kind words; but your duty demands that you stand where you are, and try to brighten the life of some relative, may be.

Perhaps that relative is unthankful—may be bitter and sarcastic. May be your whole soul revolts at the imposed bondage, and yet your *duty* lies there. May be the very ease which you covet—things which you have prayed for, are before you, and you have but to say the word and all is yours; but the probabilities are, that Christ must be left behind if you accept. What encouragement is there for you to waste your life in this way? The encouragement of the example set us by the Master. "The cup which my Father hath given me, shall I not drink it?" Suppose you take these words with you; suppose you say them over and over again to yourself, as you go through the busy cares of life. Do you think it beyond possibility that just these words alone may make these duties joyous? I tell you, my friend, they are the words of life. If you cling to those words, and rejoice at the opportunity of sacrificing for his dear name's sake, your battles are mostly over. Satan flees in dismay; and even though your lot is a humble one here on earth, and among things earthly, glimpses of that great unknown beyond, and of the glory that awaits all who delight to obey and love his holy name, shall be your portion. These words have brought me so much happiness of late that I have learned to associate them with a beautiful little hymn, a verse of which I wish to give you in closing:

Sing them over again to me,
Wonderful words of life,
Let me more of their beauty see,
Wonderful words of life.
Words of life and beauty,
Teach me *faith* and *duty*;
Beautiful words, wonderful words,
Wonderful words of life.

OUR OWN APIARY.

OR, RATHER, A TALK WITH DR. C. C. MILLER IN REGARD TO TOPICS CONNECTED WITH THE SAME.

ACARD from Dr. Miller announced the pleasing intelligence that he would stop off at Medina on his way to the convention at Indianapolis. On the evening of the 9th he arrived at the Home of the Honey-Bees. The Monday following I seized the opportunity to learn from him many of the little "kinks of the trade," as well as his opinion on the more important issues connected with bee-keeping. While we were standing in the office I remarked to Dr. Miller something in this wise:

"Let's proceed at once to the apiary, where we can there witness the operation of the various devices as well as discuss them. Besides," I continued, "I wish to learn from you a great *many* things while you are here."

A moment more and we were on our way to the apiary, when, opposite the engine-house, the doctor said:

"I should like to see your new engine."

In a moment more we were looking at it.

"A fine one indeed," said the doctor, as I proceeded to explain the principle of the new automatic cut-off.

"You see," said I, "this engine is quite different in appearance. The governor is located on the

main shaft, and is connected with these two eccentric-rods, one of which works inside the other, accomplishing what is called the automatic cut-off, and the steam-chest—”

“Yes, that is *very* nice,” said my friend, abruptly, with a twinkle in his pleasant eye, as I proceeded with an elaborate explanation; “but,” he continued, “time is *very* precious.”

“Certainly,” said I; “it is *bees* we were to talk about,” and glancing at my Waterbury, which I had forgotten to wind, I intimated mechanically that time was flying.

A moment more, and we were walking down one of the aisles.

“By the way,” said friend M., “I did not succeed in making that sawdust fuel you spoke of in GLEANINGS work in my Clark smoker.”

“Is that so?” I remarked, a little surprised. “We have no trouble with it whatever. I will light my smoker now, that you may see just how we manage to make it run half a day.”

By this time we had arrived at the house-apairy door. When inside I showed him the keg containing the sawdust.

“Ah! I see,” said my friend. “Your sawdust is very different from mine.”

“How so?” I queried.

“Your sawdust,” he continued, “is more like my shavings, which I use in my smoker. That is, it is stringy—more of a spongy character, and will not pack so solid as mine.”

While he was speaking I proceeded to fill and light my smoker. Having dropped in a few pieces of rotten wood, I sent several squirts from the oiler, and in a twinkling had the wood ablaze. I explained that it was necessary to convert these few chunks of rotten wood into coals. I then dumped in a few handfuls of sawdust. “Now,” said I, “this smoker ought to run for half a day.” I worked the bellows, meantime, vigorously, but no smoke. I continued, but no smoke. Dr. Miller first looked amused, and then laughed in his quiet way. On the contrary, I grew a little nervous, and explained that “I had never had it do that way before.” The doctor then told a little story illustrating my case, but I’ll not tell it here. I found that, in talking, I had omitted to work the bellows while dumping in the sawdust. I emptied out the contents of the smoker on the ground. I then filled as before, but was more careful to keep the bellows working while I dumped in the sawdust. The result was, I had a good volume of smoke. “Now,” said I, “that ought to last four or five hours,” which it did, giving a good volume of smoke.

Dr. Miller then explained that he thought he had something superior to the kerosene and the little oiler. To about a gallon of water he adds a pound of saltpeter. Into this mixture he throws his rotten wood. The wood absorbs the liquid, and on drying it holds the saltpeter in its fibers. This, he explained, pushed into the shavings which he uses, will light and hold fire.

“How long do you make your smoker run without refilling, when charged with shavings, and the little piece of prepared wood for holding the fire?” I asked.

“That depends—about an hour generally,” was his response. “But,” he continued, “it is no trouble to recharge at the expiration of the time. I keep a supply of shavings in a covered box near the center of my apairy; and whenever I happen to go by said

box, and my smoker needs filling, I dump in a few handfuls, and go on about my work.”

DRONE-TRAPS.

Just at this time the apiarist came into the apairy to commence work. When he came up where we were talking I handed him the smoker I had just filled.

“By the way,” said the doctor, when the apiarist had left us, “I should like to see one of the Alley drone-traps.”

“Oh! yes, sir,” said I. “Here is one on the shelf, and also one of the Batchelder.”

The doctor then explained that he had apiaries located out from his home, and that it sometimes happened, during the swarming season, that it was three or four days before he and his assistants could get to them.

“Now,” said he, “do you think the Alley trap, from your experience, would catch a queen when the swarm issued, and keep her alive three or four days?”

“I think not, as the trap is now constructed. Four or five hours, possibly a day, would be as long as she would live,” I replied.

I then explained that there was a little device for letting the queen go back into the hive, when the bees, discovering her absence, had returned.

“But that is not what I want,” said my friend. “The queen for me must be kept alive in the cage for three or four days.” After discussing it for awhile, and referring the matter to “A. I.” it seemed at least feasible that the queen might be thus kept after the swarm had issued.

I then attached one of the Alley traps to a chaff hive, that the doctor might see how the bees behaved. As I have, in a former issue, explained, the bees on returning seemed a little confused. While we were watching, a number of said bees passed the trap without any apparent difficulty, and with pollen adhering to their legs too.

About this stage of proceedings father came out and announced that Barney (the boss printer) said they were “all out of copy,” and that I must proceed forthwith to my desk in the corner. I left the doctor to take care of himself, and did not see him again till noon.

At the noon service friend Miller gave us a few choice selections of his songs, rendering them in his own good way. I will say, for the benefit of a few of our readers who may not know, our machinery stops promptly at 11:50 A. M., and the hands assemble in the large office. During the ten minutes we have a brief noon-service, at which time the hands join in singing, after which the editor of GLEANINGS reads and talks, ending in a short prayer. For Dr. Miller we had the machinery stop five minutes earlier—something we do not do very often. The doctor threw his whole soul into his music, and I think I never heard such an appeal for Christ through the medium of song as our friend gave us in those 15 minutes.

CELLAR VERSUS OUTDOOR WINTERING.

In the afternoon, when friend Miller and I were together again, the subject of wintering came up.

“I wish,” said the doctor, “that you were going to winter a few colonies in the cellar.”

“But why winter in the cellar, when we have been obtaining such good results on the summer stands? Besides, it takes more brains to winter indoors. The matter of cellar temperature and ven-

tilation is a problem in itself. Then there is the lugging in and out."

In reply to this, friend M. said that those wintered in the cellar did not as a rule require half the stores of those wintered on their summer stands, and that as regards the lugging back and forth, to and from the cellar, it cost him for hired help about one cent per colony. On a moment's reflection, I saw that cellar wintering would save about 50 cts. per colony on the supposition that it would save about ten pounds of syrup; the syrup I called worth about 5¢. But friend Miller, in order to secure proper ventilation, as well as temperature, heats his cellar with a hard-coal stove. I forgot to ask him what part this played in the expense, but I presume that he would say that would be overbalanced by the expense of chaff hives in out-door wintering.

"But," said I at length, "I don't believe we have suitable accommodations, as the cellar which we built for the purpose under our new house has steam-pipes connecting radiators in the room above. At any rate, suppose, friend Miller, you take a look at the cellar, and as you have had experience in this matter, you can advise us."

We went together in company with the apiarist to look at the cellar—a large spacious one with heavy stone walls supporting the brick building above.

"Why," said the doctor, on carefully surveying it, "this would be a capital place."

"But the steam-pipes?" I interposed.

"I think they will cause no trouble," he replied; "besides, with the exception of one or two, they are covered up. A little heat from the pipes will be an advantage. You know I heat my cellar with a stove to bring about proper ventilation. Why, yes, you ought to try a few here for the sake of GLEANINGS."

"Do you really, then, think they would winter here?" said I, brightening at the thought.

"I don't know, of course, but I think they would; at any rate, you can try," he answered.

"But there are no sub-earth ventilators, such as you have described in GLEANINGS," said I.

"You won't need them, if you put only a few colonies in the cellar by way of experiment," said he.

"I believe, then, if nothing prevents I will try four or five colonies, and report in GLEANINGS," I replied.

On our way back to the factory we began to discuss supers, hives, reversing, etc., but I shall hardly have space to go into details here, though I may occasionally refer to them in future issues.

In justice to Dr. Miller, I will state that the conversation related is not strictly verbatim, yet sufficiently accurate, I hope, to preserve the true shade of ideas.

In conclusion I desire to say, if Dr. Miller will pardon the familiarity of his junior in age and experience, that he is a "grand good fellow," and, better than all, a true follower of Christ. He did not make me to feel at all that he was one of the "big guns" on bees, and for that reason my conversation with him was more free. I believe I never yet fully realized the benefit derived from the interchange of ideas in regard to the subject of bees with a brother bee-keeper. I gleaned many a little fact from our friend, which I could not have obtained from conventions or bee-journals, though I do not in the least deprecate the value of either. These "unconventional conventions," as W. Z. Hutchinson has fitly put it, are just what bee-keep-

ers need. In fact, my friend W. Z. will remember that I had with him one such a visit some three or four years ago. I would say, then, brother bee-keepers, get together more; and while you recognize the value of these large conventions, do not ignore the little ones where "two is company and three is none."

ERNEST.

GLEANINGS IN BEE CULTURE.

Published Semi-Monthly.

A. I. ROOT,

EDITOR AND PUBLISHER.

MEDINA, O.

TERMS: \$1.00 PER YEAR, POSTPAID.

For Clubbing Rates, See First Page of Reading Matter.

MEDINA, OCT. 15, 1886.

I pray not that thou shouldest take them out of the world, but that thou shouldest keep them from the evil.—JOHN 17:15.

HONEY-JUMBLES.

We are now able to furnish you a barrel of those nice honey-jumbles for an even \$5.00. There are from 45 to 50 pounds in a barrel, and a dozen and a half cakes make a pound, as a rule.

NO MORE QUEENS.

FROM J. P. Moore we have received the following card:

Please tell the brethren in your Oct. 15 issue not to send me any more orders for queens until next spring, as my season's stock of queens is exhausted, and I am still receiving orders which I can not fill.

J. P. MOORE.

Morgan, Ky., Oct. 11, 1886.

A CORRECTION.

ON page 781 of our last issue, I was in error in supposing that our friend C. C. Miller reflected on publishers and supply-dealers, as our readers will notice by a careful reading of his article. If the doctor will accept my apology, I will try to be more careful hereafter.

A BOOK ON CELERY CULTURE.

THE best thing we have been able to get hold of is a little book of 15 pages, by W. W. Rawson, Arlington, Mass. The book is advertised at 25 cts.; but by purchasing 100 copies, we are enabled to furnish them for 15 cts. If wanted by mail, add one cent extra for postage. It gives full particulars in regard to storing for winter, as well as cultivation.

THE AMERICAN APICULTURIST.

I BELIEVE we have omitted to notice that this journal is now in the hands of our old friend Henry Alley, and so far it seems to be managed with much credit to him. The October number contains articles from Prof. Cook, G. M. Doolittle, Charles Muth, Heddon, and others. As these all write on the subject of wintering, it makes this one number of considerable value.

THE SOLAR WAX-EXTRACTOR.

IN our recent articles on the above, we have omitted to mention that the credit of the invention belongs to O. O. Poppleton, formerly of Williams-town, Ia., who recently moved to Florida. Friend P.'s description and illustrations will be found in GLEANINGS for September, 1883. From the description there given, it seems likely that friend P. used it, even before any of the friends who have men-

tioned it in California. We have also omitted to give credit in our A B C book, but it will be credited in the new edition, now on the press.

DISCOUNT ON GOODS ORDERED FOR NEXT SEASON'S USE.

DURING the month of November, the discount mentioned on page 755, Sept. 15th issue, will be changed to 8 per cent instead of 10 per cent. Remember, if you want the 10 per cent discount, get in your orders before November 1.

BUCKWHEAT, ANOTHER USE FOR IT.

ABOUT the time our European silverhull buckwheat began to fill out with grain, one of our hens which had stolen a nest brought out a large brood of chickens. In a few days more another did the same, and then a third. Now, these three broods of chickens have not had a bit of care or attention. We should think they would average ten or a dozen chicks each; but they are so spry in the buckwheat that I have never been able to count them. Here we have three broods of blooded stock that cost absolutely nothing in the way of expense for food, or time and attention, and yet I think not a chick has been lost. Now, why will not those who make a business of raising poultry sow patches of buckwheat at intervals, expressly for the fowls and chicks? If the poultry-raiser be a bee-keeper also, he can raise a crop for his bees and poultry, and the one does not conflict with the other at all, neither is there any expense in harvesting the honey or the grain, providing just about enough be sown for the fowls and no more.

CONVENTION NOTICES.

Nebraska bee-keepers will meet for their next annual session in Lincoln, Neb., on the second Wednesday in Jan., 1887.
H. N. PATTERSON, Sec.

The Southern Ill. Bee-Keepers' Association will hold its next meeting at Benton, Franklin Co., Ill., Thursday, Oct. 21, 1886, at 10 A. M.
F. H. KENNEDY, Sec.

The annual meeting of the Western Bee-Keepers' Association will be held in Pythian Hall, corner of Main and 11th Streets, Kansas City, Mo., Oct. 27, 28, 29, 1886.
P. BALDWIN, Sec.

The semi-annual meeting of the Central Michigan Bee-Keepers' Association will convene in Pioneer Hall, at the Capitol Building, in Lansing, on the third Tuesday of October, at 10 o'clock A. M.
J. ASHWORTH, Pres.
Lansing, Mich.

ILLINOIS CENTRAL BEE-KEEPERS.

In consideration of the meeting at Quincy, Ill., on the 19th, 20th, and 21st of Oct., at the laying of the corner-stone of the Soldiers' Home, the Executive Committee of the Illinois Central Bee-Keepers' Society have postponed the yearly meeting at Mt. Sterling, Ill., from Oct. 19th and 20th, to Nov. 24th and 25th. The prospects for a grand success are certainly good, and many active and prominent apiarists and specialists have signified their intention to be present. The meeting will be at the Court-House, and hotel accommodations are good. We are negotiating with the landlord for rates at the City Hotel, which we think will not exceed \$1.00 per day.
J. M. HAMBAUGH, Sec.

Black and Hybrid Queens For Sale.

For the benefit of friends who have black or hybrid queens which they want to dispose of, we will insert notices free of charge, as below. We do this because there is hardly value enough to these queens to pay for buying them up and keeping them in stock; and yet it is oftentimes quite an accommodation to those who can not afford higher-priced ones.

Six hybrid queens at 25 cts. apiece, or the lot for \$1.25.
C. F. UHL, Millersburg, Ohio.

Two mismated Italian queens to spare at 40 cents each.
CHAS. MCCLAVE, New London, O.

I have a few fine hybrid queens at 30 cts. each, by return mail.
W. A. SANDERS, Oak Bower, Hart Co., Ga.

DADANT'S FOUNDATION FACTORY, WHOLESALE AND RETAIL. See advertisement in another column.

EXCHANGE DEPARTMENT.

Notices will be inserted under this head at one-half our usual rates. All ad's intended for this department must not exceed 5 lines, and you must say you want your ad. in this department, or we will not be responsible for any error. You can have the notice as many lines as you please; but all over five lines will cost you according to our regular rates.

WANTED.—Beeswax. Any amount of average beeswax, at 22 cts. cash on delivery.
E. T. LEWIS & Co., Toledo, O.
17tfdb Aparian Supply Dealers.

GREAT BARGAIN.—2 printing-presses, 50 fonts of G type, cases, rules, leads, etc. Cost about \$300; will sell for \$125. But little used.
19-20d W. EARLE CASS, Roseland, Essex Co., N. J.

25 STANDS of Italian bees for sale in new chaff hives at \$7.00.
20-21d JOHN C. STEWART, Hopkins, Mo.

A GRAND OFFER. Pure Italian bees in new two-story L. hives, only \$5.00. I guarantee safe arrival, and 33 lbs. of honey. For particulars, address 20d S. F. REED, N. Dorchester, N. H.

WANTED.—To exchange my Given fdn. mill, good as new. I will take honey, or good winter apples for it.
L. BECKWITH, Berlin, Wis.

TESTED Italian and Carniolan queens at \$1.00 each, to close out my surplus stock. Italians crossed with Carniolans, 2 for \$1.00. Or I will exchange for high-class W. Leghorn chickens.
20d CHAS. D. DUVAL, Spencerville, Mont. Co., Md.

WANTED.—To exchange strawberry-plants, six varieties, for untested queens.
20-21d J. A. GREEN, Dayton, Ill.

WANTED.—To exchange for extracted honey, 5 chaff Eclectic hives, just as good as new, or for each, at \$2.00 each—a bargain.
20-21d F. HOLTKE, Carlstadt, N. J.

ITALIAN QUEENS, tested, \$1; hybrid, 3 for \$1.
18-20db N. ADAMS, Sorrento, Orange Co., Fla.

WANTED.—To exchange pant cloth and black waterproof cloth, for pure Italian bees. Samples will be sent to any address for offers.
20d T. DREW, So. Hanover, Mass.

THOROUGHBRED FOWLS, 14 different and distinct varieties—will exchange chicks for full colonies of Italians—must have sufficient honey to winter.
XLCR POULTRY YARDS, Mt. Vernon, O.

WANTED.—Honey, extracted preferred, in exchange for hives, frames, section boxes, saw-mandrels, and bee-hive machinery. What have you got, and what do you want for it?
20tfd D. S. HALL, So. Cabot, Vt.

WANTED.—To exchange 17 acres of good land, Lewis Co., Ky., for Italian bees in Simplicity hives. Forty good colonies take the land if in 30 days. Address L. B. POLK, Selden, Fayette Co., O.

WANTED.—To exchange for cash, or good horses and mules, 200 colonies of bees in Simplicity frames; also 40 acres of land adjoining the city.
20tfd ANTHONY OPP, Helena, Phillips Co., Ark.

FOR SALE or exchange.—One French buhr mill-stone for grinding feed, 18 inches in diameter; as good as new; will sell for half price.
20d H. L. RICHMOND, St. Johns, Mich.

FIRE! FIRE! Brother bee-keepers, you all want my LIGHTNING FIRE-KINDLER, costing about the same, almost as necessary, and but little more trouble, than matches. Perfectly safe. No litter. Time, temper, and match saving; household convenience. It makes a fire immediately. Lasts a lifetime. Sent by mail for 20 cts.
20tfd S. S. BUTLER, Los Gatos, California.

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is asserted by hundreds of practical and disinterested bee-keepers to be the cleanest, brightest, quickest accepted by bees, least apt to sag, most regular in color, evenest, and neatest, of any that is made.

It is kept for sale by Messrs. A. H. Newman, Chicago, Ill.; C. F. Muth, Cincinnati, O.; Jas. Heddon, Dowagiac, Mich.; F. L. Dougherty, Indianapolis, Ind.; Chas. H. Green, Berlin, Wis.; Chas. Hertel, Jr., Freeburg, Ill.; Ezra Baer, Dixon, Lee Co., Ill.; E. S. Armstrong, Jerseyville, Illinois; Arthur Todd, 1910 Germantown Ave., Phil'a., Pa.; E. Kretschmer, Coburg, Iowa; Elbert F. Smith, Smyrna, N. Y.; D. A. Fuller, Cherry Valley, Ill.; Clark Johnson & Son, Covington, Kentucky; J. B. Mason & Sons, Mechanic Falls, Maine; C. A. Graves, Birmingham, O.; M. J. Dickason, Hiawatha, Kan.; J. W. Porter, Charlottesville, Albemarle Co., Va.; E. R. Newcomb, Pleasant Valley, Dutchess Co., N. Y.; J. A. Humason, Vienna, O.; G. L. Tinker, New Philadelphia, O.; J. M. Shuck, Des Moines, Ia.; Aspinwall & Treadwell, Barrytown, N. Y.; Barton, Forsgard & Barnes, Waco, McLennan Co., Texas, W. E. Clark, Oriskany, N. Y., and numerous other dealers.

Write for samples free, and price list of supplies, accompanied with 150 complimentary and unsolicited testimonials, from as many bee-keepers, in 1883. We guarantee every inch of our foundation equal to sample in every respect.

CHAS. DADANT & SON,
3btfd **Hamilton, Hancock Co., Illinois.**

FIRST IN THE FIELD!!

The Invertible Bee-Hive
Invertible Frames,
INVERTIBLE SURPLUS - CASES,
TOP, BOTTOM, AND
ENTRANCE FEEDERS.
Catalogues Free. Address
J. M. SHUCK, DES MOINES, IOWA.

4-3db

Foundation - Mill For Sale.

One ten-inch Root comb-mill, second hand. The mill has, however, been completely fitted up, painted, and varnished, and is, to all appearances, both in looks and quality of work, equal to a new one. Price \$15.00. The list price of a new mill of this kind is \$20.00. **A. I. ROOT, Medina, O.**

4 H.-P. ENGINE FOR SALE.

A Bargain for the man who is in need of a First-Class Engine and Boiler.

This is one of B. W. Payne & Son's Eureka engines, the same that we advertise in our catalogue. It has run 3 months since it was new; has had a 10-foot galvanized-iron smoke-stack added, and is in perfect running order. The man who is holding it had to put in a larger one to meet the demands of his trade. The price of a new engine and boiler complete, no stack, is \$275.00; but to make a quick sale we will sell this one with the stack for \$225.00, free on board cars at Higginsville, Mo.

A. I. ROOT, Medina, Ohio.

MUTH'S HONEY-EXTRACTOR,
SQUARE GLASS HONEY-JARS,
TIN BUCKETS, BEE-HIVES,
HONEY-SECTIONS, &c., &c.
PERFECTION COLD-BLAST SMOKERS.

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P. S.—Send 10-cent stamp for "Practical Hints to Bee-Keepers." **1tfdb**

100 FINE PRINTED ENVELOPES,

white, or assorted colors, with name, business, and address on, all for 40 c.; 50 for 25 cts. By mail post-paid. Cards and letter-heads at same prices.
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VANDERVORT COMB FOUNDATION MILLS.

Send for samples and reduced price list.
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GOOD NEWS FOR DIXIE! SIMPLICITY HIVES,

Sections, Extractors, Smokers, Separators, &c., of Root's Manufacture, Shipped from here at **ROOT'S PRICES.**

Also S. hives of Southern yellow pine, and Bee-Keepers' Supplies in general. *Price List Free.*

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3-24db

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Western headquarters for bee-men's supplies. Four-piece sections, and hives of every kind, a specialty. Flory's corner-clamps, etc. Orders for sections and clamps filled in a few hours' notice. Send for sample and prices.

M. R. MADARY,
22 21db **Box 172, Fresno City, Cal.**

HOW TO RAISE COMB HONEY.

Price 5c. You need this pamphlet, and my free bee and supply circular.
18tfd **OLIVER FOSTER, Mt. Vernon, Linn Co., Iowa.**

DADANT'S FOUNDATION FACTORY, WHOLE-SALE AND RETAIL. See advertisement in another column.
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SURE TO SEND
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Before purchasing your **Bee-Supplies.** Cash paid for Beeswax. **7tfd**

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GLEANINGS IN BEE CULTURE.

Books for Bee-Keepers and Others.

Any of these books on which postage is not given will be forwarded by mail, *postpaid*, on receipt of price.

In buying books, as every thing else, we are liable to disappointment, if we make a purchase without seeing the article. Admitting that the bookseller could read all the books he offers, as he has them *for sale*, it were hardly to be expected he would be the one to mention all the faults, as well as good things about a book. I very much desire that those who favor me with their patronage shall not be disappointed, and therefore I am going to try to prevent it by mentioning all the faults so far as I can, that the purchaser may know what he is getting. In the following list, books that I approve I have marked with a *; those I especially approve, **; those that are not up to times, †; books that contain but little matter for the price, large type, and much space between the lines, ‡; foreign, §.

BOOKS ESPECIALLY FOR BEE-KEEPERS.

As many of the bee-books are sent with other goods by freight or express, incurring no postage, we give prices separately. You will notice, that you can judge of the size of the books very well, by the amount required for postage on each Postage.]

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A. I. ROOT, Medina, Ohio.

The Weekly

British Bee Journal.

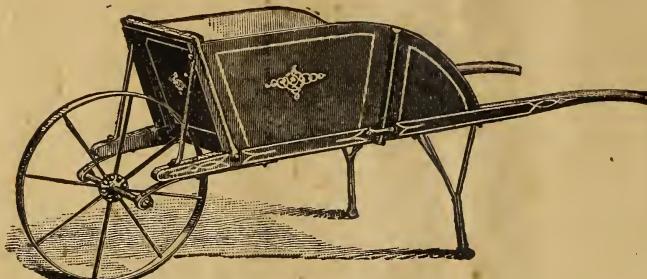
The British Bee Journal is now mailed to our address in packages, weekly. In order to dispose of them, we offer them at present at \$2.62 per year, postage paid, beginning January, 1886. Will guarantee safe arrival of every number.

A. I. ROOT, Medina, Ohio.

GLEANINGS IN BEE CULTURE.

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ALSO A WHEELBARROW FOR WOMEN, CHILDREN, AND
PEOPLE WHO ARE NOT VERY STOUT.

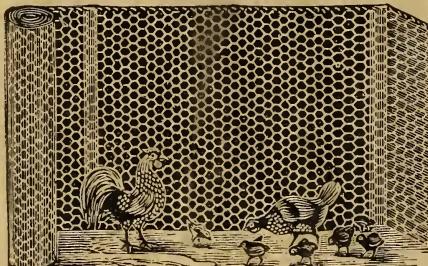


OUR 35-POUND WHEELBARROW, CAPABLE OF CARRYING 500 POUNDS.

them at their convenience, when times were dull. Well, friends, the wheelbarrows are here, and they are a surprise to everybody. We show you a picture above. We have two sizes—the smaller one weighing only 35 lbs., and yet it will carry 500 lbs. safely, and it can be packed so closely together for shipment that you can take the whole thing under your arm and walk off easily. The wheel has flat spokes instead of round. The different pieces are all cut and forged by means of dies. The legs are steel, so they will neither break nor bend, even if you bump them on the sidewalk. The springs are oil-tempered, with adjustable bearings, so you can tighten them up for wear. More than all, the wheelbarrows are the neatest job of painting and varnishing, I believe, I ever saw, for a farm implement. They are handsome enough to go around town with, and strong enough to do heavy work; and yet the price of the small size is only \$4.00, the same as our iron wheelbarrow. The larger size is \$4.50. The only discount that can be made is 5 per cent off for two; 10 per cent off for five, or 15 per cent off for ten or more. They can be sent either by freight or express. It is only five minutes' work to put one together.

A. I. ROOT, Medina, Ohio.

GALVANIZED WIRE NETTING,
FOR POULTRY INCLOSURES, ETC.



This wire netting comes in rolls 150 feet in length and 4 feet in width. This would give 600 sq. ft. of surface, and we are enabled to furnish it at the low price of one cent per sq. foot, or \$6.00 for a roll. Staples for fastening to the posts are 20 ets. per lb., and 1 lb. contains about 400 staples. About 1 lb. of these is needed for a roll of netting. The posts to hold it should be not more than 10 ft. apart, and it should be set in the ground at least 2 ft. You can put on a top rail, if you choose, but the selvage edge of the netting makes a pretty strong fence; and as the fowls can not see it they can not tell how high to fly; and after being bumped down several times they usually give it up. In putting it on the posts, draw the top of the selvage tight, and afterward draw the bottom down and fasten that. You can put a board a foot wide along the bottom, if you choose. This will prevent small chickens from getting through, and makes the fence one foot higher.

One advantage this netting has over wooden pickets is, that it does not catch the wind as they do, and therefore the posts are not so liable to be tipped over; besides it presents a very much more

ornamental appearance, as you will see by the cut. The meshes are two inches across; and where the wire crosses it is securely soldered together, for the whole fabric is immersed in melted zinc after the whole is woven together. The size of wire used is No. 19. This galvanized wire never rusts, so it will last a lifetime, unless it is damaged by careless running into it. If you want to make division fences, so as to keep different breeds from the same yard, it is better to have board at the bottom at least one foot wide, so the fowls can not be gossiping through the wire, and peeking at one another. You will notice that one roll makes a yard nearly 40 feet square, and this is plenty large enough for 20 or 30 fowls.

Another advantage this netting has over wooden pickets is, that you can see what is going on inside so readily. The wind, also, has free access, which is quite an item during sultry weather. It should be shipped by freight. The weight of a single bale is about 50 lbs. It may be shipped from here or from New York or Chicago, as may be convenient.

If you want us to eat rolls, the price will be $\frac{1}{2}$ c. a foot extra. On two or more rolls, we can give 5 per cent discount; on ten or more rolls, a discount of 10 per cent. As the above prices are very close indeed, they can be given only when each comes with order. This wire netting can be used in a hundred different ways for protecting any thing. It makes very pretty and efficient trellises for running vines. As it is galvanized wire, the weather has no effect on it whatever.

P. S.—We keep in stock only the one width mentioned above; viz., 4 feet high, although you can have it made to order from 2 to 6 feet. The 2-feet width is just right for ducks, rabbits, etc. The price will be the same; viz., one cent per square foot. All other widths come in bales 150 feet in length. Where less than a whole bale is sold, the price will be $\frac{1}{2}$ cents per square foot. If wanted by mail, add 2 cts. per ft.; or 15 cts. postage for 10 ft. Prices for smaller mesh, or mesh made of heavier iron, on application.

A. I. ROOT, Medina, Ohio.